

**CONTRACT PLANS COMPONENTS**

SIGNING AND PAVEMENT MARKING  
 SIGNALIZATION  
 UTILITY RELOCATION

**MANATEE COUNTY  
 PUBLIC WORKS DEPARTMENT**

**CONTRACT PLANS**

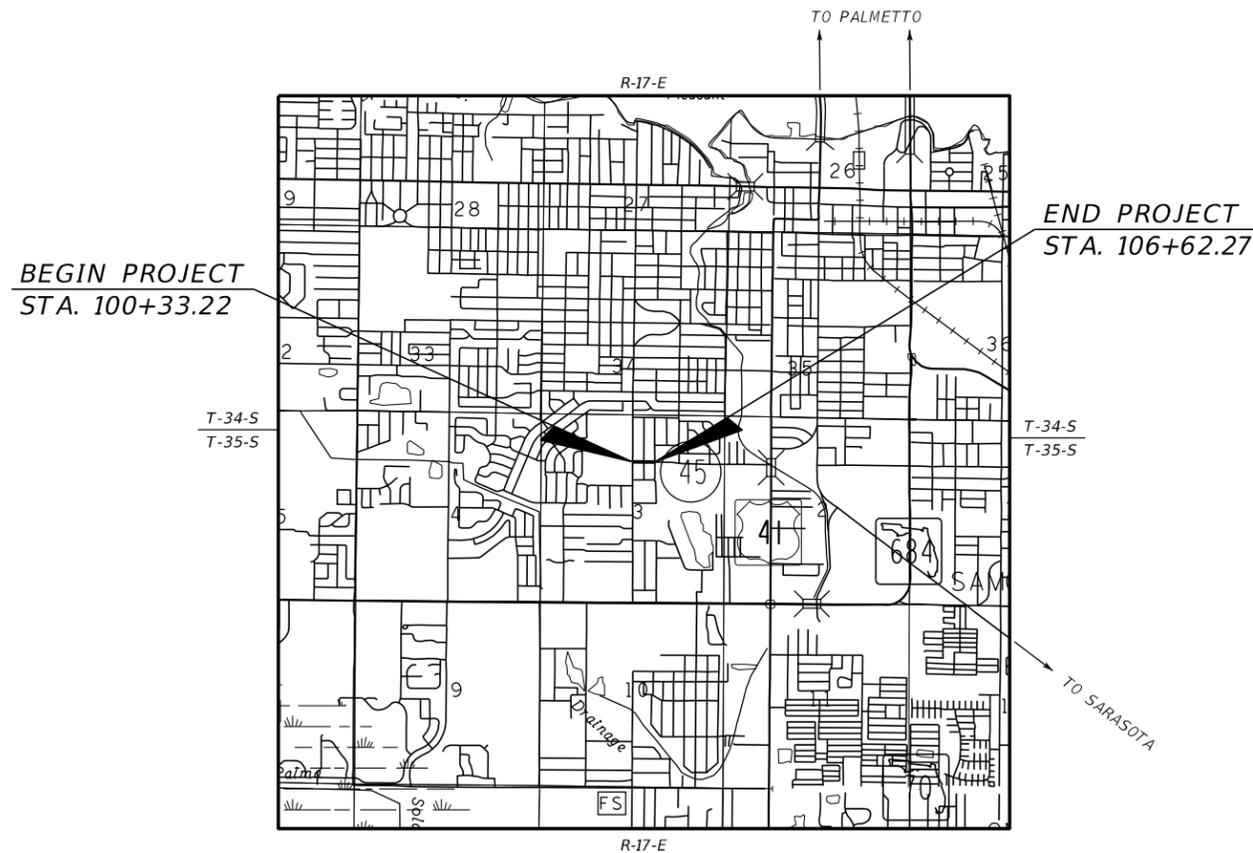
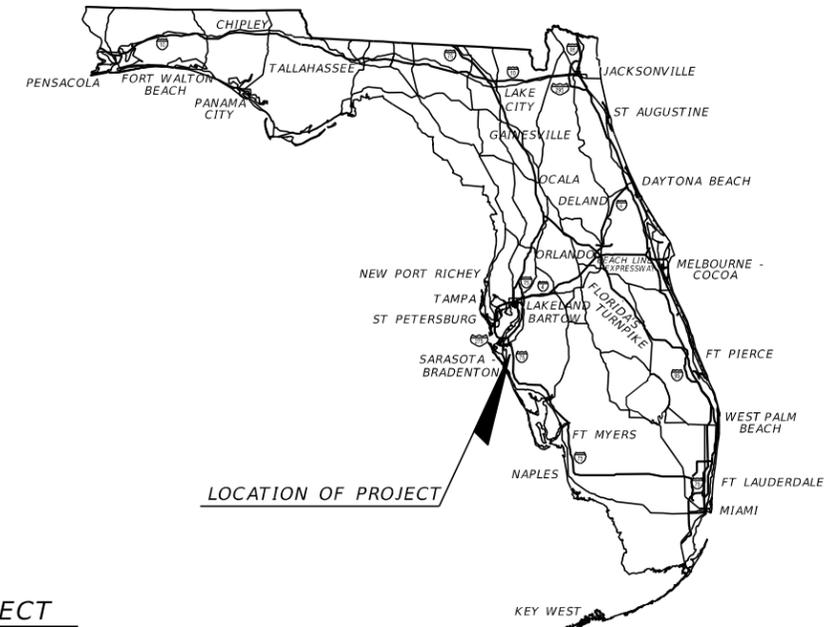
**MANATEE COUNTY  
 PROJECT NUMBER 6092460  
 26TH STREET WEST AT 30TH AVENUE WEST  
 INTERSECTION IMPROVEMENTS**

**INDEX OF ROADWAY PLANS**

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	SIGNATURE SHEET
3	SUMMARY OF PAY ITEMS
4	DRAINAGE MAP
5	TYPICAL SECTION
6	PROJECT LAYOUT
7	GENERAL NOTES
8 - 9	ROADWAY PLAN / PROFILE
10 - 11	DRAINAGE DETAILS
12 - 15	CROSS SECTIONS
16	EROSION CONTROL PLAN
17	TRAFFIC CONTROL PLAN GENERAL NOTES
18 - 19	UTILITY ADJUSTMENTS

**FOR INFORMATION ONLY**

DET-1 - DET-2	ROADWAY DETAILS
SUR-1 - SUR-3	SURVEY PLANS



**ROADWAY PLANS  
 ENGINEER OF RECORD:**

JASON L. STARR, P.E.  
 P.E. NO.: 70171  
 HDR ENGINEERING, INC.  
 2601 CATTLEMEN ROAD, SUITE 400  
 SARASOTA, FLORIDA 34232  
 VENDOR NO. 47-0680568  
 CONTRACT NO. 15-0909JE

MANATEE CO. PROJECT MANAGER:  
 ERIC S. SHROYER, P.E.

**GOVERNING STANDARD PLANS:**

Florida Department of Transportation, FY2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

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

**APPLICABLE IRs:**

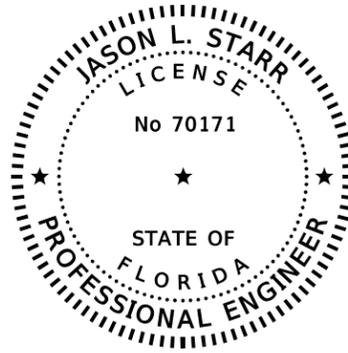
Standard Plans for Bridge Construction are included in the Structures Plans Component

**GOVERNING STANDARD SPECIFICATIONS:**

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

FISCAL YEAR	SHEET NO.
21	1

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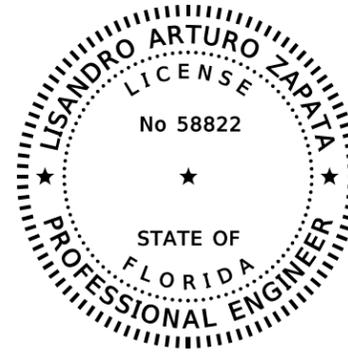
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HDR ENGINEERING, INC.  
 2601 CATTLEMEN ROAD, SUITE 400  
 SARASOTA, FLORIDA 34232-6212  
 JASON L. STARR, PE NO. 70171

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

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
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6	PROJECT LAYOUT
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8 - 9	ROADWAY PLAN / PROFILE
12 - 15	CROSS SECTIONS
17	TRAFFIC CONTROL PLAN GENERAL NOTES
18 - 19	UTILITY ADJUSTMENTS



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HDR ENGINEERING, INC.  
 4830 KENNEDY BLVD., SUITE 400  
 TAMPA, FL 33609-2548  
 LISANDRO ARTURO ZAPATA, PE NO. 58822

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

SHEET NO.	SHEET DESCRIPTION
2	SIGNATURE SHEET
4	DRAINAGE MAP
10 - 11	DRAINAGE DETAILS
16	EROSION CONTROL PLAN

SCALE	AS NOTED		
DESIGNED BY	JLS		
DRAWN BY	JHC		
CHECKED BY	JLS		
No.	REVISIONS	DATE	BY
		11/20/2020	PW:\



HDR Engineering, Inc.  
 2601 Cattlemen Road  
 Suite 400  
 Sarasota, FL 34232-6233

DATE  
11/2020

PROJECT NO.  
6092460



MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER  
JASON L. STARR  
FL. LICENSE NO.  
70171

*SIGNATURE SHEET*

SHEET NO.  
2

ROADWAY PLANS			
ITEM NO.	ITEM	UNIT	QUANTITY
101-1	MOBILIZATION	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
102-71-13	TEMPORARY BARRIER, F&I, LOW PROFILE, CONCRETE	LF	460
104-10-3	SEDIMENT BARRIER	LF	183
104-18	INLET PROTECTION SYSTEM	EA	9
110-1-1	CLEARING AND GRUBBING (0.86 AC)	LS	1
110-4-10	REMOVAL OF EXISTING CONCRETE	SY	285
120-1	REGULAR EXCAVATION	CY	400
120-6	EMBANKMENT	CY	75
160-4	TYPE B STABILIZATION	SY	900
285-701	OPTIONAL BASE (BASE GROUP 01)	SY	185
285-704	OPTIONAL BASE (BASE GROUP 04)	SY	75
285-709	OPTIONAL BASE (BASE GROUP 09)	SY	560
327-70-6	MILLING EXIST. ASPH. PAVT, 1 1/2" AVG. DEPTH	SY	2,765
334-1-13	SUPERPAVE ASPHALTIC CONCRETE, TRAFFIC C	TN	49.5
337-7-83	ASPHALT FRICTION COURSE, TRAFFIC C, FC-12.5, PG 76-22	TN	289
425-1-521	INLETS, DT BOT, TYPE C, < 10'	EA	2
425-1-525	INLETS, DT BOT, TYPE C, PARTIAL	EA	3
425-1-555	INLETS, DT BOT, TYPE E, PARTIAL	EA	1
425-2-61	MANHOLES, P-8, <10'	EA	1
425-2-63	MANHOLES, P-8, PARTIAL	EA	1
425-6	VALVE BOXES, ADJUST	EA	1
MC-202.2	MANATEE COUNTY CURB INLET TYPE 202.2	EA	1
430-175-112	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 12" S/CD	LF	15
430-175-115	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15" S/CD	LF	28
430-175-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" S/CD	LF	4
440-1-50	UNDERDRAIN, TYPE V	LF	424
440-73-2	UNDERDRAIN OUTLET PIPE, 6"	LF	36
515-1-2	PIPE HANDRAIL - GUIDERAIL, ALUMINUM	LF	294
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	442
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	75
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	178
527-2	DETECTABLE WARNINGS	SF	100
570-1-2	PERFORMANCE TURF (SOD)	SY	2,000

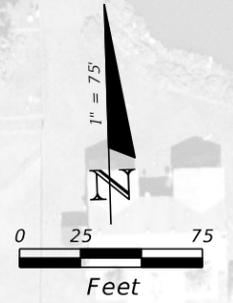
UTILITY PLANS			
ITEM NO.	ITEM	UNIT	QUANTITY
MC-1	MOBILIZATION	LS	1
MC-2	GATE VALVES	LS	4
MC-3	DUCTILE IRON PIPE, WATER	LF	189
MC-4	DUCTILE IRON FITTINGS, WATER	LS	10
MC-5	HYDRANT RELOCATION	LS	1
MC-6	SODDING	SY	100
MC-7	PAVEMENT REPAIR AND ROAD RESTORATION	SY	240
MC-8	ARV WITH ENCLOSURE	LS	2
MC-9	AC/DI ADAPTER	LS	2
MC-10	SAMPLE POINT	LS	3
MC-11	REMOVE 0-6" WATER MAIN	LF	193
MC-12	JOINT RESTRAINT	EA	55
MC-13	RECORD DRAWINGS	LS	1

SIGNALIZATION PLANS			
ITEM NO.	ITEM	UNIT	QUANTITY
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	120
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	320
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	155
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	4
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	1
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED PATCH PANEL	EA	1
633-3-51	FIBER OPTIC CONNECTION HARDWARE, MODIFY SPLICE ENCLOSURE	EA	1
633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, F&I, MVDS & CCTV	LF	1010
635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA	15
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1
639-1-620	ELECTRICAL POWER SERVICE, REMOVE COMPLETE SERVICE	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
641-2-80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- POLE 30' AND GREATER	EA	4
646-1-11	ALUMINUM SIGNALS POLE, F&I, PEDESTAL	EA	5
649-21-13	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60-50'	EA	2
650-1-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	10
650-1-16	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS	2
650-1-19	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 5 SECTION CLUSTER, 1 WAY	AS	3
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4
653-1-12	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 2 WAY	AS	1
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	6
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA	1
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	1
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA	6
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	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
685-1-12	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA	1
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	8
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	6
700-11-391	ELECTRONIC DISPLAY SIGN, F&I OVERHEAD MOUNT - AC POWERED, BLANK OUT SIGN, UP TO 12 SF	AS	1
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 8-6	LF	1075
715-5-31	LUMINAIRE & BRACKET ARM- ALUMINUM, F & I NEW LUMINAIRE AND ARM ON NEW/EXISTING POLE	EA	2

SIGNING & PAVEMENT MARKING PLANS			
ITEM NO.	ITEM	UNIT	QUANTITY
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	1
700-1-50	SINGLE POST SIGN, RELOCATE	AS	6
700-1-74	SINGLE POST SIGN, F&I CUSTOM, 31+ SF	AS	2
700-3-101	SIGN PANEL, F&I GROUND MOUNT, UP TO 12 SF	EA	3
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	382
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE	LF	173
711-11-160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE	EA	1
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	7
711-11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	87
711-11-241	THERMOPLASTIC, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/6-10 DOTTED EXTENSION, 6"	GM	0.019
711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	216
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.232
711-16-131	THERMOPLASTIC, OTHER SURFACES, WHITE, SKIP, 6", 10-30 SKIP OR 3-9 LANE DROP	GM	0.023
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.316

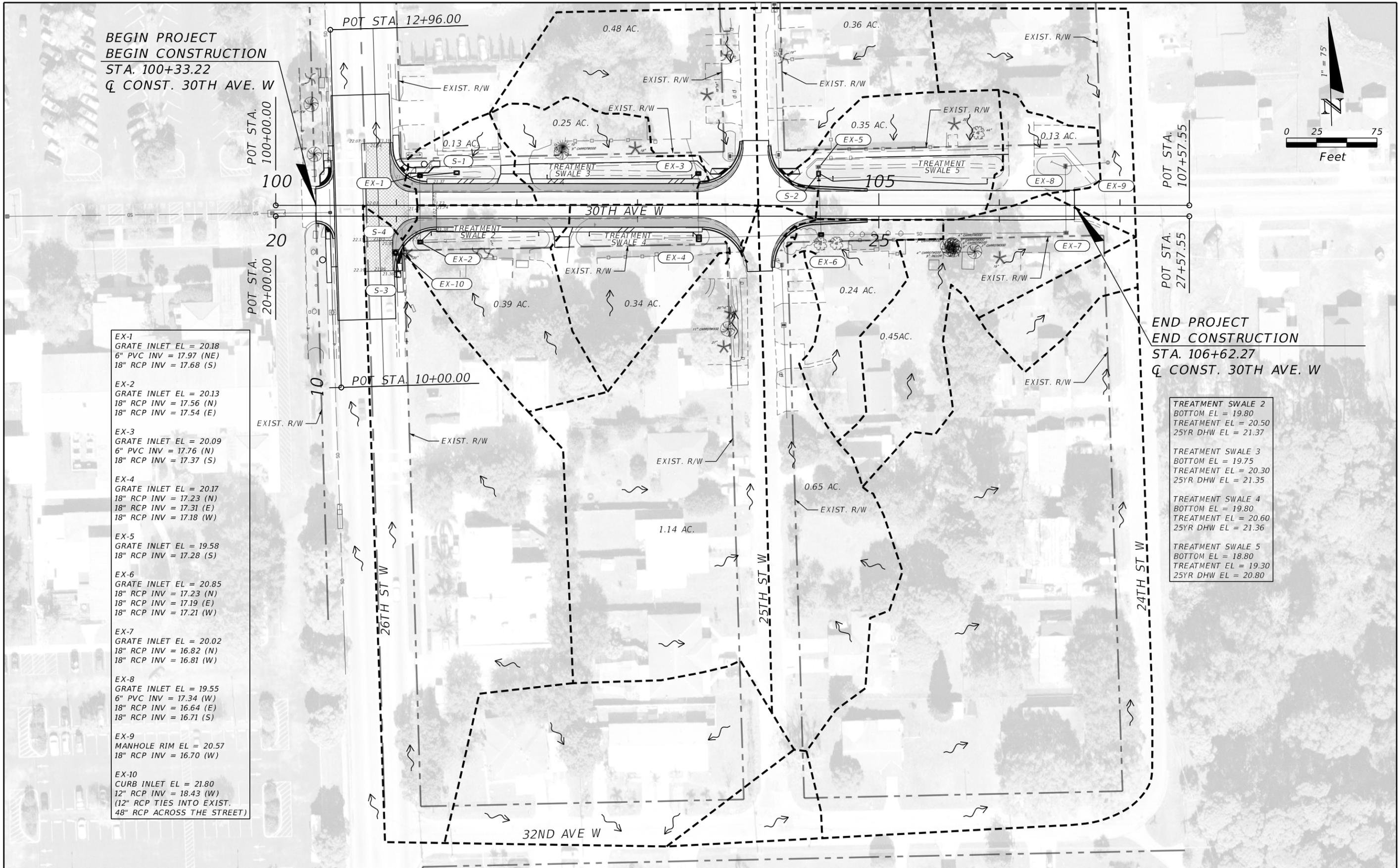
No.	REVISIONS	DATE	BY	SCALE	AS NOTED	DESIGNED BY	JLS	DRAWN BY	JHC	CHECKED BY	JLS	HDR	HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE	11/2020	PROJECT NO.	6092460	DESIGN ENGINEER	JASON L. STARR	FL. LICENSE NO.	70171	SHEET NO.	3
													MANATEE COUNTY PUBLIC WORKS		SUMMARY OF PAY ITEMS								

BEGIN PROJECT  
 BEGIN CONSTRUCTION  
 STA. 100+33.22  
 Q CONST. 30TH AVE. W



- EX-1  
 GRATE INLET EL = 20.18  
 6" PVC INV = 17.97 (NE)  
 18" RCP INV = 17.68 (S)
- EX-2  
 GRATE INLET EL = 20.13  
 18" RCP INV = 17.56 (N)  
 18" RCP INV = 17.54 (E)
- EX-3  
 GRATE INLET EL = 20.09  
 6" PVC INV = 17.76 (N)  
 18" RCP INV = 17.37 (S)
- EX-4  
 GRATE INLET EL = 20.17  
 18" RCP INV = 17.23 (N)  
 18" RCP INV = 17.31 (E)  
 18" RCP INV = 17.18 (W)
- EX-5  
 GRATE INLET EL = 19.58  
 18" RCP INV = 17.28 (S)
- EX-6  
 GRATE INLET EL = 20.85  
 18" RCP INV = 17.23 (N)  
 18" RCP INV = 17.19 (E)  
 18" RCP INV = 17.21 (W)
- EX-7  
 GRATE INLET EL = 20.02  
 18" RCP INV = 16.82 (N)  
 18" RCP INV = 16.81 (W)
- EX-8  
 GRATE INLET EL = 19.55  
 6" PVC INV = 17.34 (W)  
 18" RCP INV = 16.64 (E)  
 18" RCP INV = 16.71 (S)
- EX-9  
 MANHOLE RIM EL = 20.57  
 18" RCP INV = 16.70 (W)
- EX-10  
 CURB INLET EL = 21.80  
 12" RCP INV = 18.43 (W)  
 (12" RCP TIES INTO EXIST.  
 48" RCP ACROSS THE STREET)

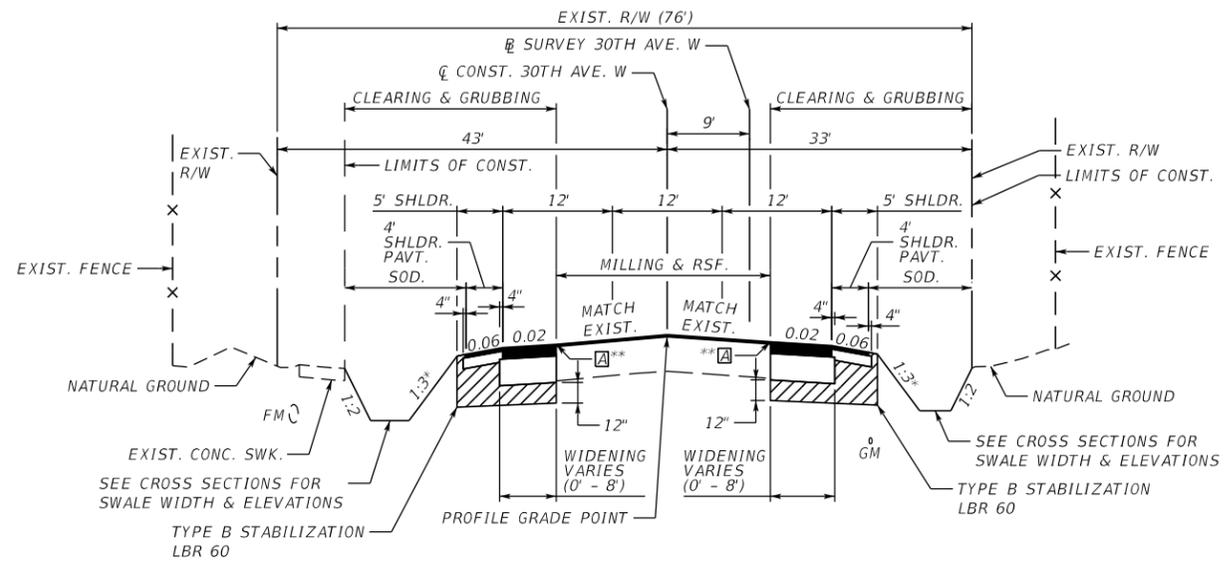
- TREATMENT SWALE 2  
 BOTTOM EL = 19.80  
 TREATMENT EL = 20.50  
 25YR DHW EL = 21.37
- TREATMENT SWALE 3  
 BOTTOM EL = 19.75  
 TREATMENT EL = 20.30  
 25YR DHW EL = 21.35
- TREATMENT SWALE 4  
 BOTTOM EL = 19.80  
 TREATMENT EL = 20.60  
 25YR DHW EL = 21.36
- TREATMENT SWALE 5  
 BOTTOM EL = 18.80  
 TREATMENT EL = 19.30  
 25YR DHW EL = 20.80



END PROJECT  
 END CONSTRUCTION  
 STA. 106+62.27  
 Q CONST. 30TH AVE. W

		SCALE AS NOTED		DATE 11/2020		DESIGN ENGINEER LISANDRO A. ZAPATA	<b>DRAINAGE MAP</b>	SHEET NO.
		DESIGNED BY LAZ	HDR Engineering, Inc. 4830 Kennedy Blvd. Suite 400 Tampa, FL 33609-2548	PROJECT NO. 6092460	MANATEE COUNTY PUBLIC WORKS	FL. LICENSE NO. 58822		4
No.	REVISIONS	DATE	BY					
			LAZ					

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**TYPICAL SECTION NO. 1**  
**30TH AVENUE WEST**  
 STA. 100+94.41 TO STA. 104+90.54

- MILLING**  
MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (1 1/2")
- RESURFACING**  
FRICTION COURSE FC-12.5 (1 1/2")
- WIDENING**  
OPTIONAL BASE GROUP 9 (10") WITH STRUCTURAL COURSE TYPE SP 12.5 (TRAFFIC C) (1 1/2") AND FRICTION COURSE FC-12.5 (1 1/2")
- SHOULDER PAVEMENT**  
OPTIONAL BASE GROUP 1 (4") WITH FRICTION COURSE FC-12.5 (1 1/2")

- MILLING & RESURFACING ONLY**  
**30TH AVENUE WEST**  
 STA. 100+48.56 TO STA. 100+94.41  
 STA. 104+90.54 TO STA. 106+62.27
- 26TH STREET WEST**  
 STA. 10+55.48 TO STA. 12+41.49
- MILLING**  
MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (1 1/2")
- RESURFACING**  
FRICTION COURSE FC-12.5 (1 1/2")
- OVERBUILD**  
**30TH AVENUE WEST**  
 STA. 100+75.00 TO STA. 101+10.00
- OVERBUILD**  
 TYPE SP STRUCTURAL COURSE (TRAFFIC C)  
 THICKNESS VARIES (0.5" TO 2.5")

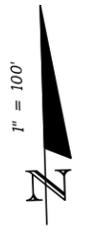
▲ SAWCUT LINE  
 \*\* SAWCUT ACCORDING TO MANATEE COUNTY ROADWAY DETAIL 403.3

**TRAFFIC DATA**  
 DESIGN SPEED = 30 MPH

\*NOTE: SIDE SLOPES MATCH EXISTING PERMITTED SLOPES.

SCALE AS NOTED DESIGNED BY JLS DRAWN BY JHC CHECKED BY JLS				HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE 11/2020	<b>MANATEE COUNTY</b> <b>PUBLIC WORKS</b>	DESIGN ENGINEER JASON L. STARR	<b>TYPICAL SECTION</b>	SHEET NO. 5
No. REVISIONS 1:42:57 PM 11/20/2020	DATE BY PW:\	PROJECT NO. 6092460	FL. LICENSE NO. 70171						

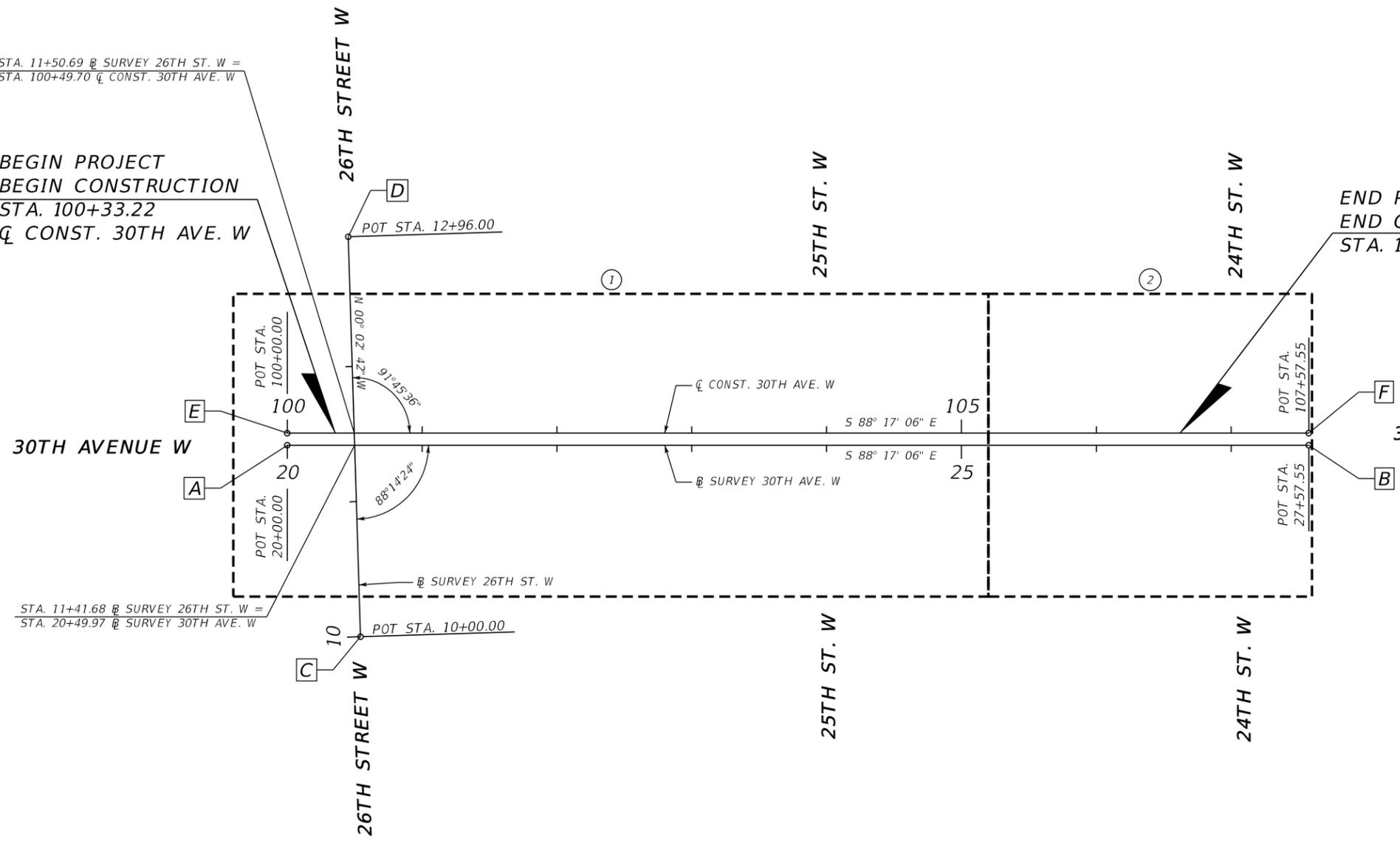
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STA. 11+50.69 @ SURVEY 26TH ST. W =  
STA. 100+49.70 @ CONST. 30TH AVE. W

BEGIN PROJECT  
BEGIN CONSTRUCTION  
STA. 100+33.22  
@ CONST. 30TH AVE. W

END PROJECT  
END CONSTRUCTION  
STA. 106+62.27 @ CONST. 30TH AVE. W



STA. 11+41.68 @ SURVEY 26TH ST. W =  
STA. 20+49.97 @ SURVEY 30TH AVE. W

- A** BEGIN @ SURVEY 30TH AVE. W  
STA. 20+00.00 =  
STA. 11+43.22, 49.95' LT. @ SURVEY 26TH ST. W
- B** END @ SURVEY 30TH AVE. W  
STA. 27+57.55 =  
STA. 11+19.95, 707.25' RT. @ SURVEY 26TH ST. W
- C** BEGIN @ SURVEY 26TH ST. W  
STA. 10+00.00 =  
STA. 20+54.32, 141.62' RT. @ SURVEY 30TH AVE. W
- D** END @ SURVEY 26TH ST. W  
STA. 12+96.00 =  
STA. 20+45.23, 154.24' LT. @ SURVEY 30TH AVE. W
- E** BEGIN @ CONST. 30TH AVE. W  
STA. 20+00.00, 9.00' LT. @ SURVEY 30TH AVE. W =  
STA. 100+00.00 @ CONST. 30TH AVE. W
- F** END @ CONST. 30TH AVE. W  
STA. 27+57.55, 9.00' LT. @ SURVEY 30TH AVE. W =  
STA. 107+57.55 @ CONST. 30TH AVE. W

COORDINATE DATA

ALIGNMENT	STATION	NORTHING	EASTING	BACK BEARING	AHEAD BEARING
@ SURVEY 30TH AVE. W	20+00.00	1,141,791.759	465,540.517		S 88° 17' 06" E
	27+57.55	1,141,769.087	466,297.730	S 88° 17' 06" E	
@ CONST. 30TH AVE. W	100+00.00	1,141,800.755	465,540.787		S 88° 17' 06" E
	107+57.55	1,141,778.083	466,298.000	S 88° 17' 06" E	
@ SURVEY 26TH ST. W	10+00.00	1,141,648.580	465,590.579		N 00° 02' 42" W
	12+96.00	1,141,944.577	465,590.347	N 00° 02' 42" W	

SCALE	AS NOTED		
DESIGNED BY	JLS		
DRAWN BY	JHC		
CHECKED BY	JLS		
No.	REVISIONS	DATE	BY



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232-6233

DATE  
11/2020  
PROJECT NO.  
6092460



MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER  
JASON L. STARR  
FL. LICENSE NO.  
70171

PROJECT LAYOUT

SHEET NO.  
6

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

1. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED.
2. THE REMOVAL OF ANY DRAINAGE STRUCTURE OR PIPE WITHIN 5.0 FEET OF ANY UTILITY THAT IS IN SERVICE SHALL BE ACCOMPLISHED SO AS NOT TO DAMAGE THE UTILITY.
3. ANY PORTION OF THE EXISTING RIGHT OF WAY THAT IS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION SHALL BE REDRESSED AND SODDED AT THE CONTRACTOR'S EXPENSE.
4. NO STOCKPILE OF MATERIAL IS PERMITTED WITHIN THE PROJECT LIMITS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
5. ALL BOTTOM PROFILE ELEVATIONS AND CROSS SECTIONS FOR TREATMENT/ATTENUATION SWALES SHALL BE CONSTRUCTED TO WITHIN ±0.1 FEET OF THE VALUES SHOWN ON THE PLANS.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXISTING DRAINAGE INVERT ELEVATIONS THAT WILL REMAIN PART OF THE PROPOSED DRAINAGE SYSTEM. ANY DIFFERENCE FROM PLAN ELEVATION SHALL BE REPORTED TO THE ENGINEER.
7. EXISTING SIDEWALK, DRAINAGE STRUCTURES, AND PIPES WITHIN CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED.
8. ALL PROPOSED DRAINAGE PIPE IS TO BE RCP CLASS II UNLESS OTHERWISE NOTED.
9. ALL DRAINAGE STRUCTURE SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
10. ALL PROPOSED SIDE SLOPES STEEPER THAN 1:3 SHALL BE SODDED WITH STAKED SOD.
11. ALL STATIONS AND OFFSETS REFER TO THE  $\phi$  OF CONSTRUCTION UNLESS OTHERWISE NOTED.
12. THE COUNTY RESERVES THE RIGHT TO PERFORM QUALITY ASSURANCE TESTING ON ALL MATERIAL DELIVERED TO THE PROJECT AND TO REJECT ALL MATERIALS NOT MEETING ACCEPTABLE STANDARDS.
13. ANY DAMAGE TO COUNTY, OR LOCAL ROADS CAUSED BY THE CONTRACTOR'S HAULING OR EXCAVATION EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY. PAYMENT SHALL NOT BE MADE FOR THIS WORK.
14. OVERALL CLEANUP SHALL BE ACCOMPLISHED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY. ANY AND ALL EXPENSES INCURRED FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR MOBILIZATION.
15. SEE COUNTY HIGHWAY & TRAFFIC STANDARD MANUAL ROAD CONNECTION DETAIL 403.3 AT ALL WIDENING AND CONNECTIONS TO EXISTING PAVEMENT.
16. THE CONTRACTOR IS TO FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF ALL DRAINAGE STRUCTURES AND PIPES PRIOR TO ORDERING, CASTING OR PLACING PROPOSED DRAINAGE STRUCTURES AND PIPES.
17. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
18. ALL PROPOSED INLET GRATES SHALL BE STEEL GRATES.
19. THE CONTRACTOR IS TO PROVIDE PROTECTION TO ALL DRAINAGE STRUCTURES DURING STABILIZATION OPERATIONS.
20. PROJECT DATUM  
BEARINGS AND COORDINATES (IN U.S. SURVEY FEET) ARE BASED ON NATIONAL GEODETIC SURVEY (NGS), STATE PLANE COORDINATES, FLORIDA WEST ZONE, NORTH AMERICAN DATUM 1983/2011 ADJUSTMENT.  
CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) UTILIZED:  
(A) FRUITVILLE (FRUT): RECEIVER TYPE/SERIAL#: LEICA GRX1200PRO / NOT AVAILABLE; ANTENNA TYPE/SERIAL#: LEIAT504 / NOT AVAILABLE; (NORTHING = 1,092,269.222, EASTING = 513,565.058)  
(B) ANNA MARIA ISLE (FLAI): RECEIVER TYPE/SERIAL#: LEICA GR10 / 1701977; ANTENNA TYPE/SERIAL#: LEICA AR20 / 16268009; (NORTHING = 1,133,278.398, EASTING = 432,312.165)  
(C) ST. PETERSBURG (STPT): RECEIVER TYPE/SERIAL#: LEICA GR10 / 1702057; ANTENNA TYPE/SERIAL#: LEICA AR20 / 16268027; (NORTHING = 1,248,625.777, EASTING = 453,457.224)  
ALL AS PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION WEBSITE.  
(<https://www.fdot.gov/geospatial/FPRNDatasheets.shtm>)  
VERTICAL:  
ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988 ADJUSTMENT (NAVD 88).  
CONTROL BENCHMARK UTILIZED:  
(A) A FOUND ALUMINUM ALLOY ROD WITH A MANATEE COUNTY DISK STAMPED "COB 1027 2010", ENCASED IN CONCRETE, DESIGNATED "COB 1027" BY NGS, PID = D06911, ELEVATION = 20.67 FEET (NAVD 88)  
(B) A FOUND ALUMINUM ALLOY ROD WITH A CITY OF BRADENTON DISK STAMPED "COB 1031 2010", DESIGNATED "COB 1031" BY NGS, PID = D06915, ELEVATION = 23.42 FEET (NAVD 88)  
BOTH AS PUBLISHED BY THE NATIONAL GEODETIC SURVEY WEB SITE. (<http://www.ngs.noaa.gov>)  
CONVERSION FACTOR:  
ADD 0.98 FEET TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM, 1929 ADJUSTMENT (NGVD 29).  
CONVERSION CALCULATED UTILIZING VERTCON (VERSION 2.0).
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE, AND LOCAL AGENCIES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS THAT ARE NOT PROVIDED IN THE BID DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.
22. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.

23. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 OR THE NATIONAL 811 ONE CALL NUMBER WHEN APPLICABLE FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY.
24. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
25. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.
26. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEEPED DAILY AS PART OF DAILY CLEAN UP.
27. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
28. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
29. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE NOT BEEN LOCATED OR IDENTIFIED, MAY NOT BE IN THE EXACT LOCATION SHOWN OR RELOCATED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) THAT MAY AFFECT HIS WORK. ALL EXISTING UTILITIES TO BE EXTENDED, CROSSED OR CONNECTION POINTS SHALL BE EXPOSED PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND ELEVATION. ANY DISCREPANCIES OR CONFLICTS FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION.
30. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER LINES, STORM DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAIL BOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENT OR FACILITY IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEM DUE TO HIS CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.

UTILITY CONTACTS:

CHARTER COMMUNICATIONS  
ALEX FLEMMING  
5413 E. STATE ROAD 64  
BRADENTON, FL. 34208-5535  
(941) 748-3816  
James.Fleming@mybriighthouse.com

FRONTIER COMMUNICATIONS  
DENISE HUTTON  
1701 RINGLING BLVD.  
SARASOTA, FL. 34236  
(941) 906-6722  
denise.hutton@ftr.com

TECO PEOPLES GAS  
DAN SHANAHAN  
8261 VICO COURT  
SARASOTA, FL. 34240  
(941) 342-4006  
dshanahan@tecoenergy.com

CITY OF BRADENTON  
KIM CLAYBACK  
1411 NINTH STREET WEST  
BRADENTON, FL. 34205  
(941) 708-6300 EXT.: 224  
kim.clayback@cityofbradenton.com

MANATEE COUNTY PUBLIC WORKS  
KATHY MCMAHON  
1022 26TH AVENUE EAST  
BRADENTON, FL. 34208  
(941) 708-7450  
kathy.mcmahon@mymanatee.org

FLORIDA POWER & LIGHT  
GREG COKER  
1253 12TH AVENUE EAST  
PALMETTO, FL. 34221  
(941) 723-4430  
gregcoker@fpl.com

CROWN CASTLE FIBER  
DANNY HASKETT  
1601 NW 136TH AVENUE, SUITE A-200  
SUNRISE, FL 33323  
(786) 610-7073

SCALE	AS NOTED		
DESIGNED BY	JLS		
DRAWN BY	JHC		
CHECKED BY	JLS		
No.	REVISIONS	DATE	BY



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232-6233

DATE

11/2020

PROJECT NO.

6092460



MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER

JASON L. STARR

FL. LICENSE NO.

70171

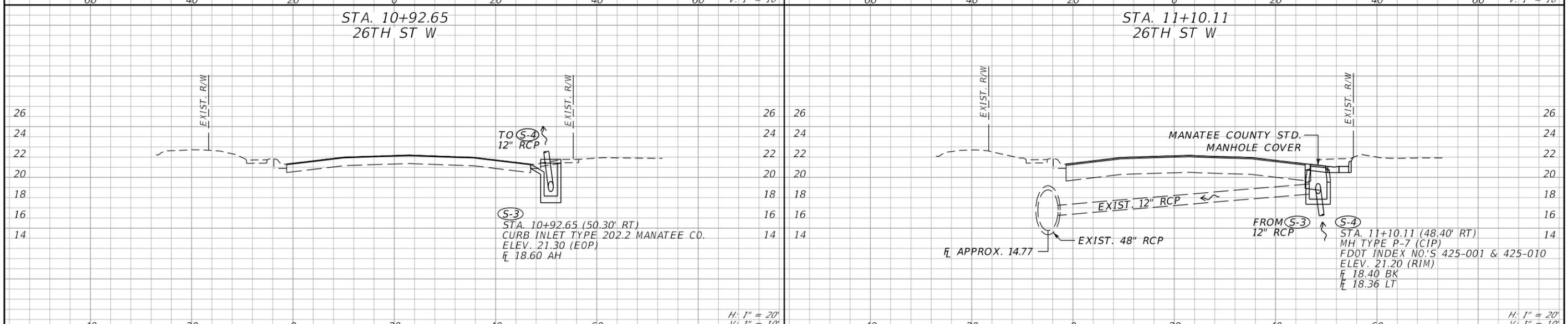
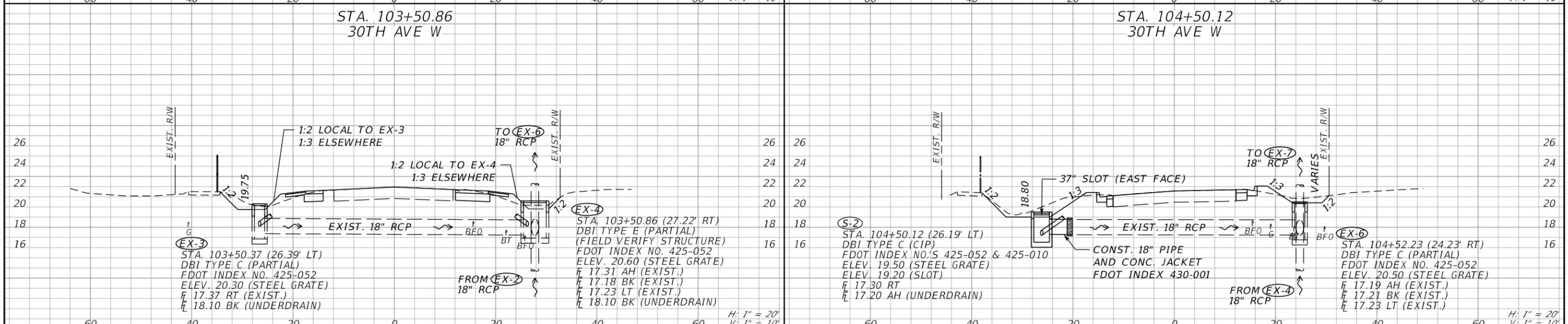
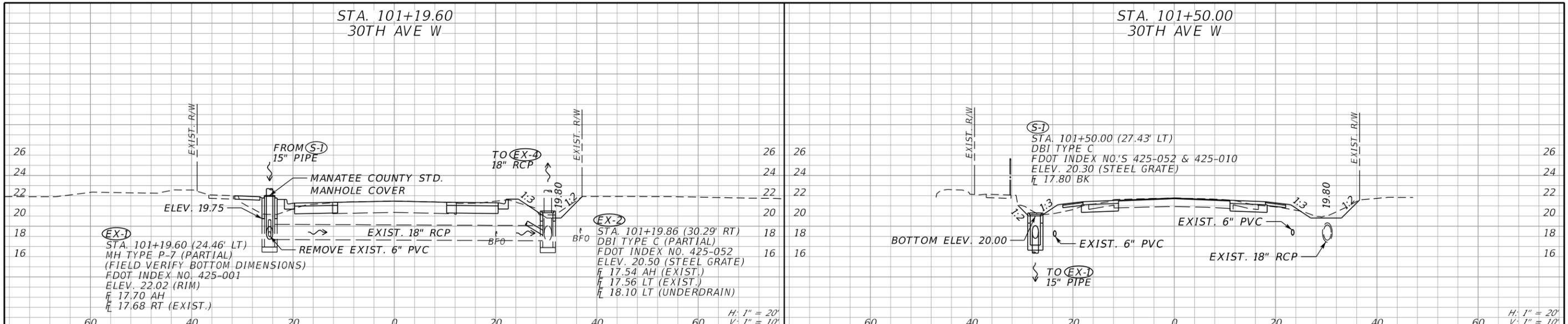
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GENERAL NOTES

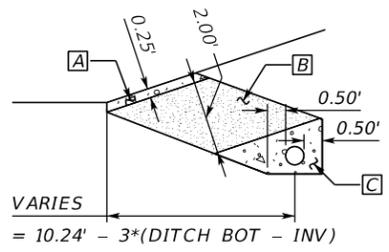
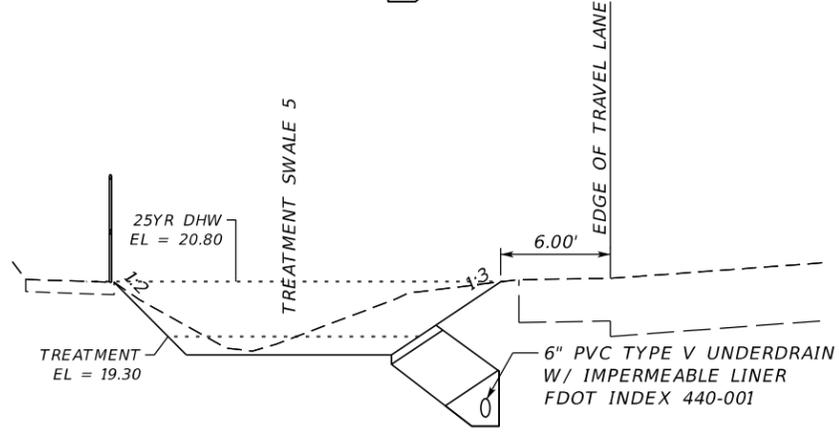
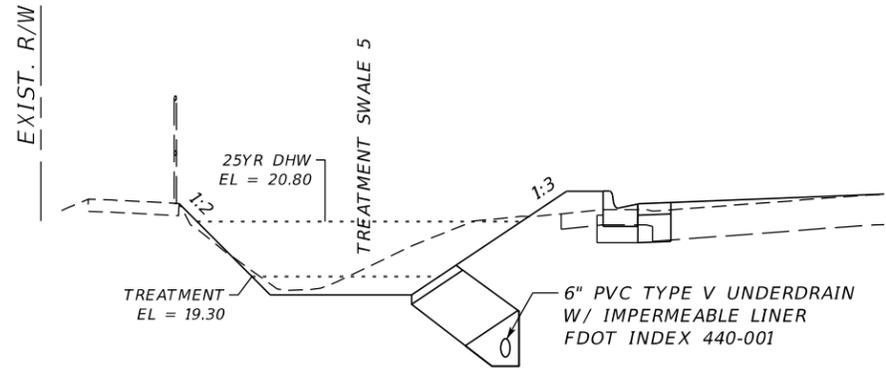
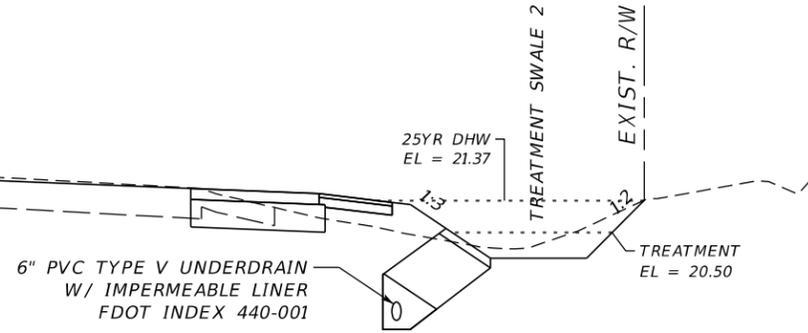
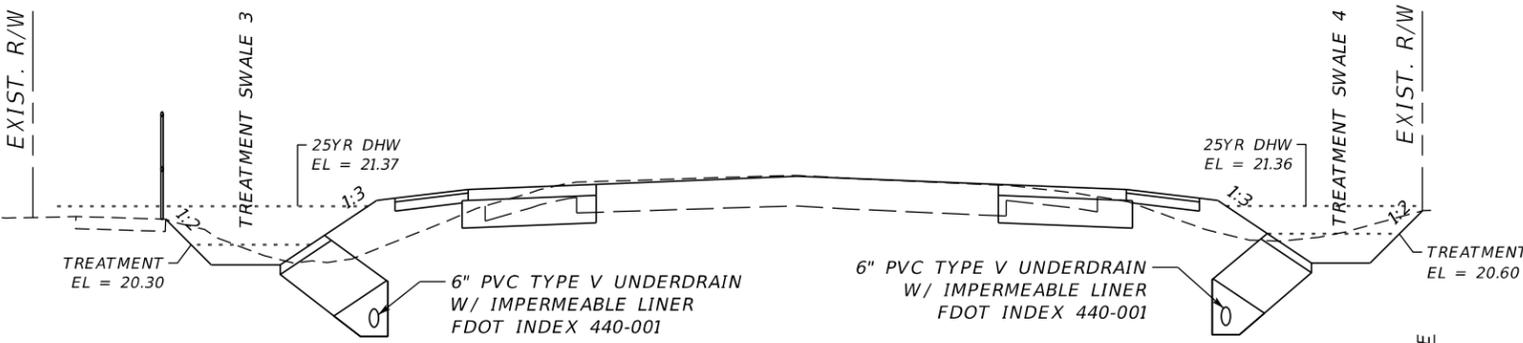
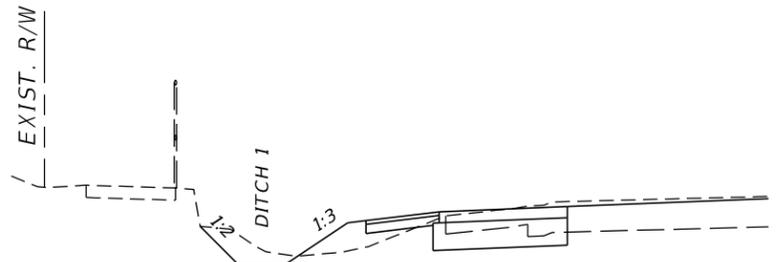






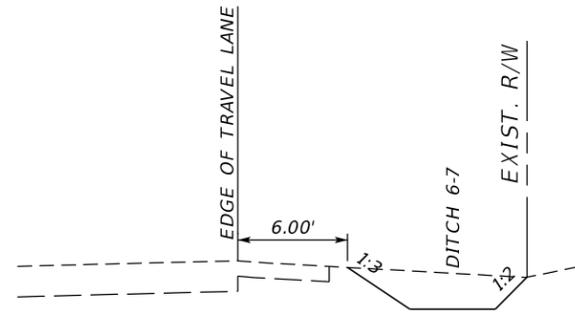
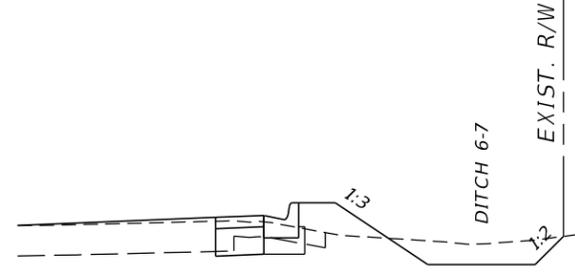
SCALE AS NOTED DESIGNED BY LAZ DRAWN BY GAC CHECKED BY LAZ		HDR Engineering, Inc. 4830 Kennedy Blvd. Suite 400 Tampa, FL 33609-2548	DATE 11/2020	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER LISANDRO A. ZAPATA FL. LICENSE NO. 58822	SHEET NO. 10
No. REVISIONS DATE BY 11/20/2020 PW:\			PROJECT NO. 6092460		DRAINAGE DETAILS (1)	

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**TYPE V UNDERDRAIN  
TYPICAL SECTION**  
1" = 5'

- A COARSE AGGREGATE
- B FINE AGGREGATE
- C COARSE AGGREGATE



- NOTES:**
- (1) ALL UNDERDRAIN ARE TO HAVE CLEANOUTS INSTALLED AT BOTH THE UPSTREAM END AND DOWNSTREAM END BEFORE THE OUTLET PIPE.
  - (2) FINE AGGREGATE SHALL BE QUARTZ SAND MEETING THE REQUIREMENTS OF SECTIONS 902-4 OF THE FDOT STANDARD SPECIFICATIONS.
  - (3) COARSE AGGREGATE SHALL BE GRAVEL OR STONE MEETING THE REQUIREMENTS OF SECTIONS 901-2 OR 901-3 OF THE FDOT STANDARD SPECIFICATIONS. THE GRADATION SHALL MEET SECTION 901, GRADES 4, 467, 5, 56 OR 57 STONE UNLESS OTHERWISE SHOWN RESTRICTED IN THE PLANS.
  - (4) UNDERDRAIN MEDIA MATERIAL SHALL CONSIST OF WASHED MATERIAL MEETING FDOT ROAD AND BRIDGE SPECIFICATIONS FOR SILICA SAND AND QUART GRAVELS, OR MIXTURES THEREOF (LESS THAN 1 PERCENT SILT, CLAY AND ORGANIC MATTER), UNLESS FILTER CLOTH IS USED WHICH IS SUITABLE TO RETAIN THE SILT, CLAY AND ORGANIC MATTER WITHIN THE FILTER; CALCIUM CARBONATE IS NOT AN ACCEPTABLE SUBSTITUTE.
  - (5) THE AGGREGATE SHALL HAVE A UNIFORMITY COEFFICIENT OF 1.5 OR GREATER.
  - (6) FILTER MATERIAL SHALL HAVE AN EFFECTIVE GRAIN SIZE OF 0.20 TO 0.55 MILLIMETERS IN DIAMETER.

DITCH / TREATMENT SWALE PARAMETER SCHEDULE									
	SIDE	STA.	f <sub>i</sub>		STA.	f <sub>i</sub>	SLOPE	FS	BS
DITCH 1	LT	101+30.00	20.00	TO	101+78.00	20.00	0.000%	1:3	1:2
T.S. 2	RT	101+25.00	19.80	TO	102+22.00	19.80	0.000%	1:3	1:2
T.S. 3	LT	102+22.00	19.75	TO	103+50.00	19.75	0.000%	1:3	1:2
T.S. 4	RT	102+53.00	19.80	TO	103+55.00	19.80	0.000%	1:3	1:2
T.S. 5	LT	104+50.00	18.80	TO	106+00.00	18.80	0.000%	1:3	1:2
DITCH 6-7	RT	104+45.00	20.40	TO	106+60.00	20.00	0.186%	1:3	1:2

UNDERDRAIN TYPE V STA., INVERT, OFFSET SCHEDULE														TIES INTO	TOTAL LENGTH	OUTLET PIPE LENGTH	OUTLET PIPE INV.			
TREATMENT SWALE	SIDE	STA.	f <sub>i</sub>	OFF.	TO	STA.	f <sub>i</sub>	OFF.	TO	STA.	f <sub>i</sub>	OFF.	TO	STA.	f <sub>i</sub>	OFF.				
TREATMENT SWALE 2	RT	101+29.00	18.20	21.49	TO	101+50.00	18.27	21.40	TO	102+00.00	18.44	21.86	TO	102+18.00	18.50	21.79	EX-2	89'	12'	18.10
TREATMENT SWALE 3	LT	102+25.00	18.50	-21.85	TO	102+50.00	18.44	-22.19	TO	103+45.00	18.20	-22.18					EX-3	120'	6'	18.10
TREATMENT SWALE 4	RT	102+60.00	18.50	21.94	TO	103+46.00	18.20	22.18									EX-4	86'	5'	18.10
TREATMENT SWALE 5	LT	104+62.00	17.30	-19.99	TO	104+94.54	17.34	-21.50	TO	105+73.96	17.47	-17.72	TO	105+90.00	17.50	-17.79	S-2	128'	13'	17.20

SCALE	AS NOTED		
DESIGNED BY	LAZ		
DRAWN BY	GAC		
CHECKED BY	LAZ		
No.	REVISIONS	DATE	BY

**HDR** HDR Engineering, Inc.  
4830 Kennedy Blvd.  
Suite 400  
Tampa, FL 33609-2548

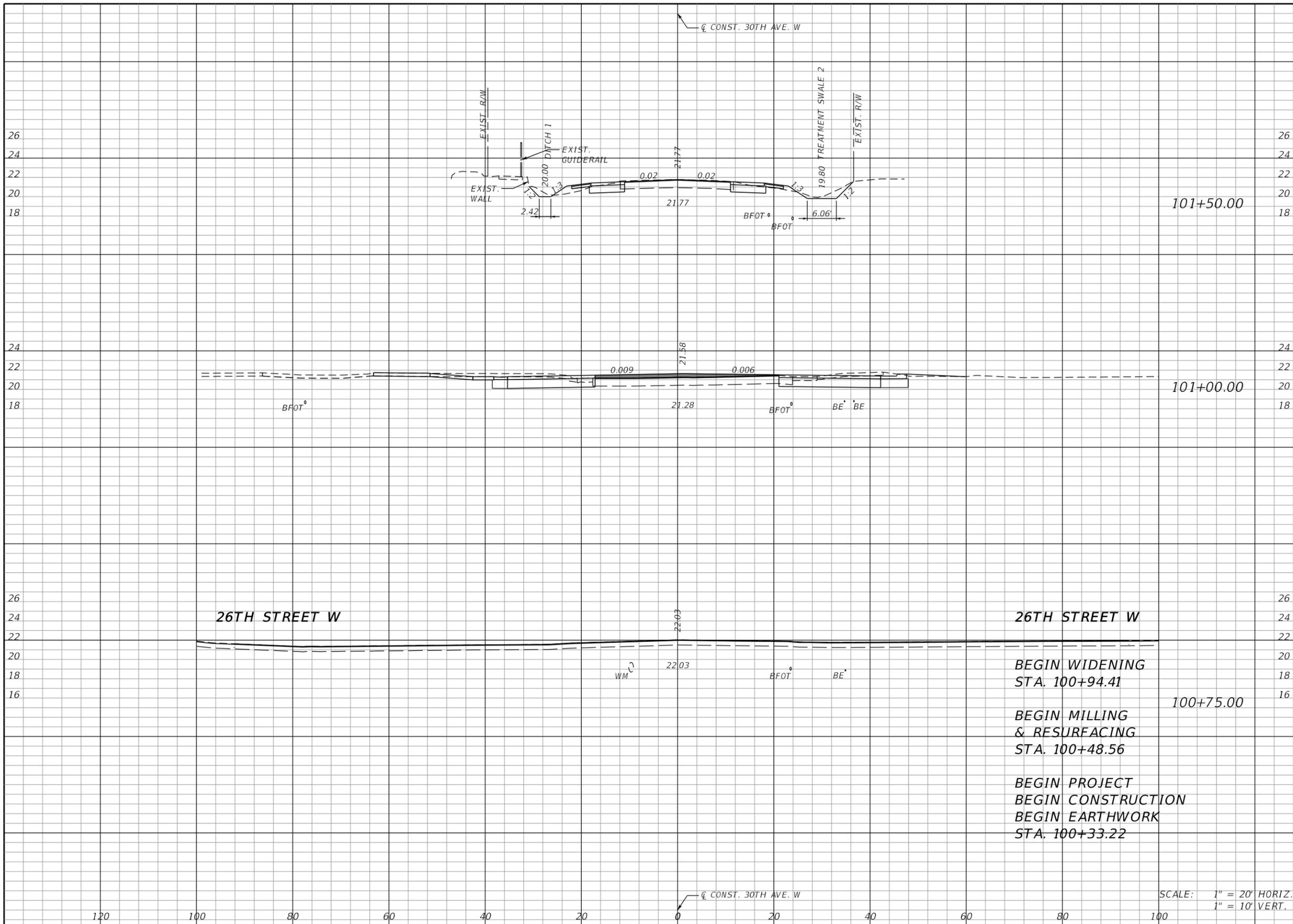
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11/2020  
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6092460

**Manatee County** MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER  
LISANDRO A. ZAPATA  
FL. LICENSE NO.  
58822

**DRAINAGE DETAILS (2)**

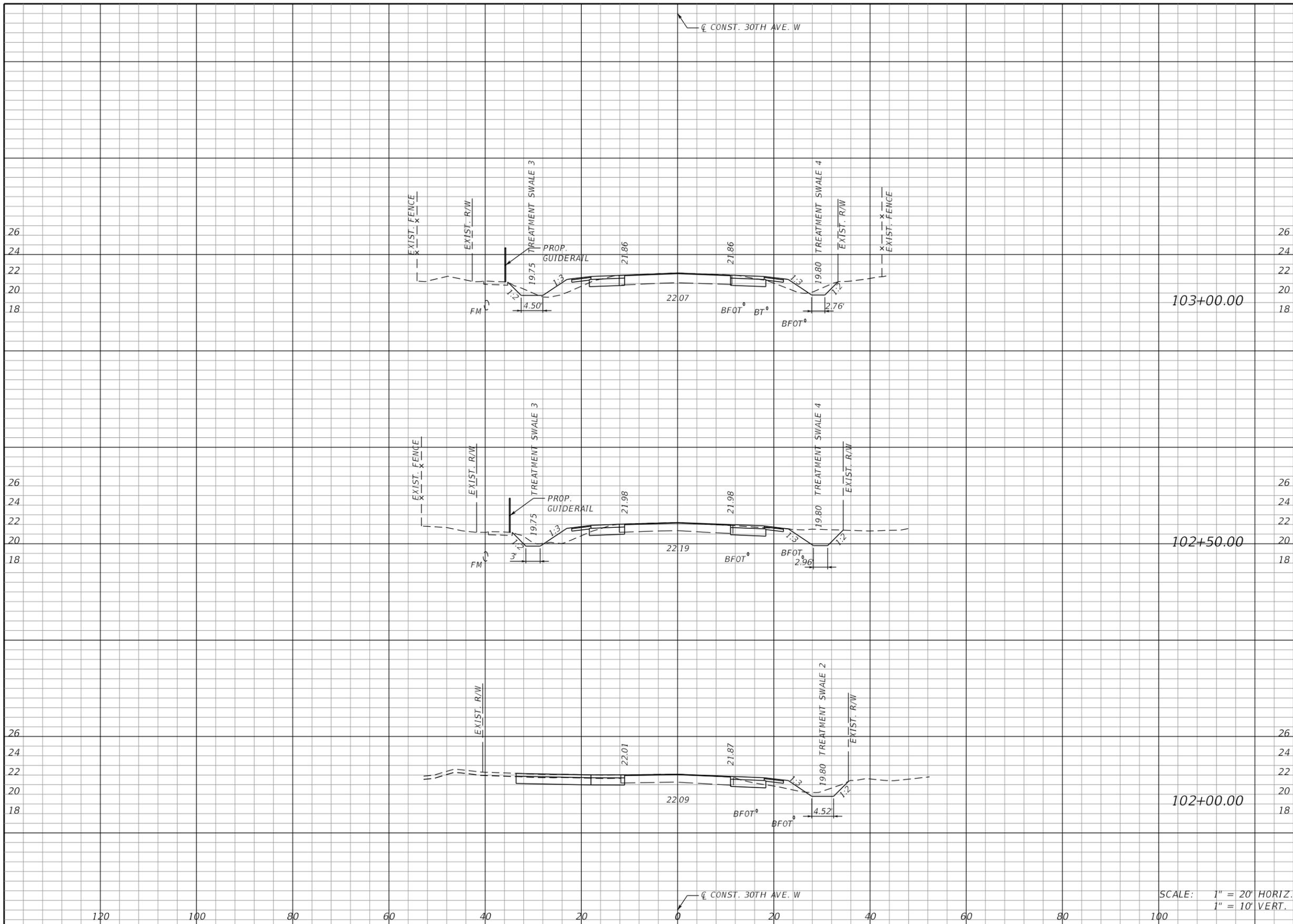
SHEET NO.  
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Regular		Exc.		Embankment	
A	V	A	V	A	V
18	83	4			5
72	0	1			0
0	0	0			0

SCALE AS NOTED DESIGNED BY JLS DRAWN BY JHC CHECKED BY JLS		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE 11/2020	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	<b>CROSS SECTIONS</b>	SHEET NO. 12
No. REVISIONS DATE BY			PROJECT NO. 6092460		FL. LICENSE NO. 70171		

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Regular		Exc.		Embankment	
A	V	A	V	A	V
18	43	12		18	
28	56	7		10	
32	46	4		7	

SCALE: 1" = 20' HORIZ.  
1" = 10' VERT.

No.	REVISIONS	DATE	BY

SCALE AS NOTED

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DRAWN BY JHC

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2601 Cattlemen Road  
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Sarasota, FL 34232-6233

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MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER  
JASON L. STARR

FL. LICENSE NO.  
70171

**CROSS SECTIONS**

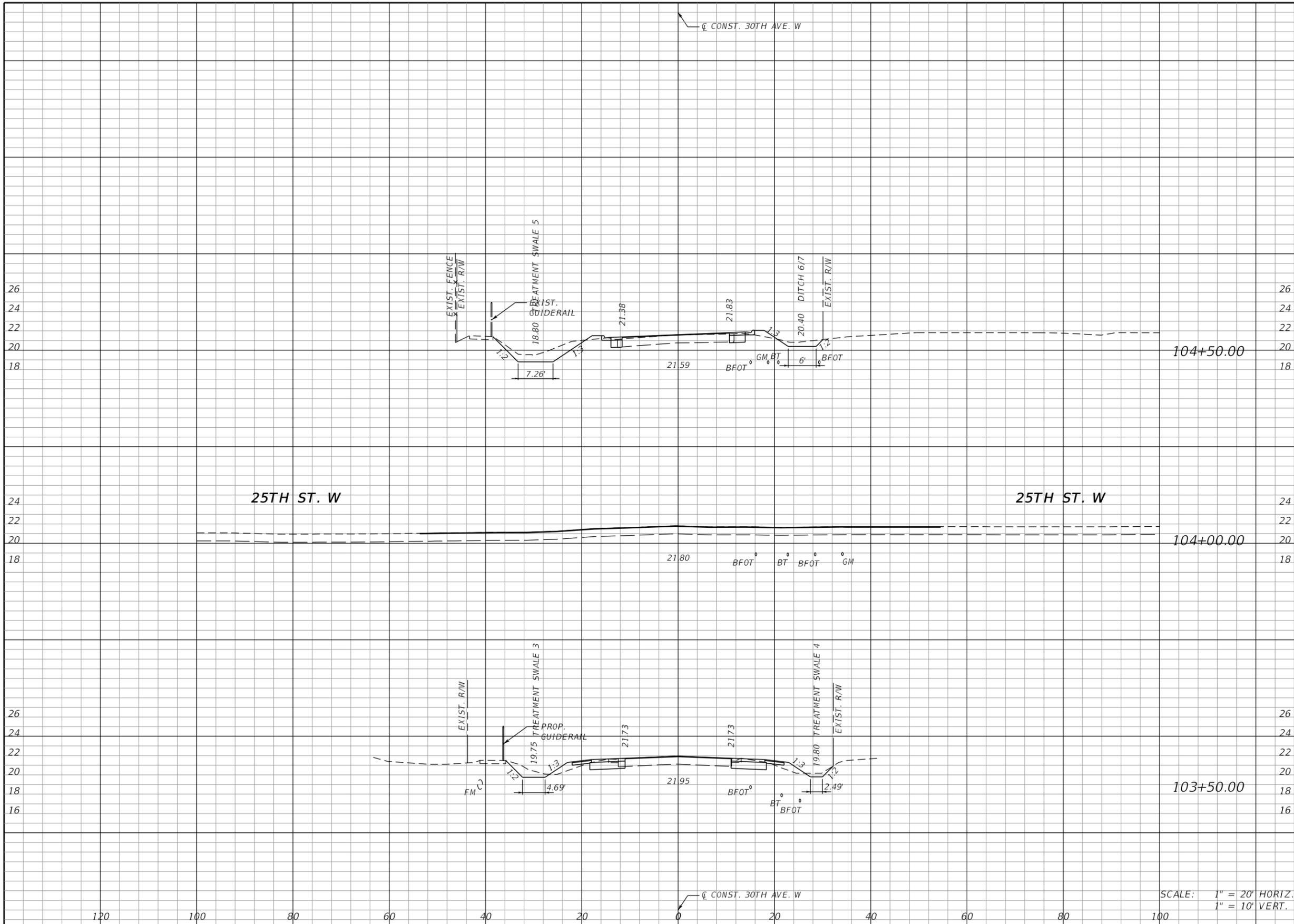
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11/20/2020

PW:\



Regular		Exc.		Embankment	
A	V	A	V	A	V
27	25	3	3		
0	19	0	6		
21	36	6	17		

SCALE: 1" = 20' HORIZ.  
1" = 10' VERT.

SCALE	AS NOTED		
DESIGNED BY	JLS		
DRAWN BY	JHC		
CHECKED BY	JLS		
No.	REVISIONS	DATE	BY



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2601 Cattlemen Road  
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Sarasota, FL 34232-6233

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CROSS SECTIONS

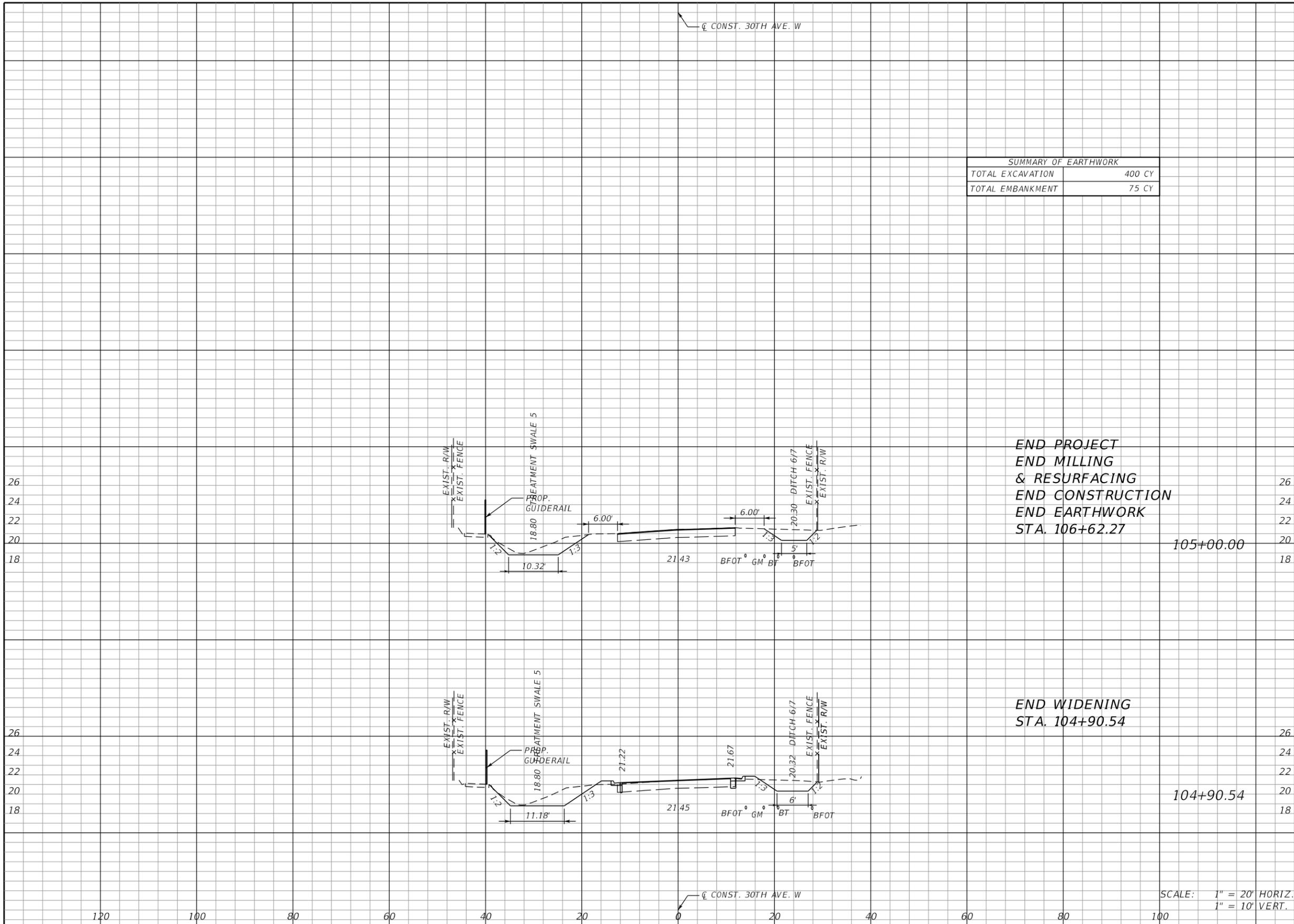
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SUMMARY OF EARTHWORK	
TOTAL EXCAVATION	400 CY
TOTAL EMBANKMENT	75 CY

END PROJECT  
 END MILLING  
 & RESURFACING  
 END CONSTRUCTION  
 END EARTHWORK  
 STA. 106+62.27

END WIDENING  
 STA. 104+90.54

Regular Exc.		Embankment	
A	V	A	V
0	28	0	2
30	53	2	5

SCALE: 1" = 20' HORIZ.  
 1" = 10' VERT.

No.	REVISIONS	DATE	BY

SCALE AS NOTED

DESIGNED BY JLS

DRAWN BY JHC

CHECKED BY JLS



HDR Engineering, Inc.  
 2601 Cattlemen Road  
 Suite 400  
 Sarasota, FL 34232-6233

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PROJECT NO. 6092460



MANATEE COUNTY  
 PUBLIC WORKS

DESIGN ENGINEER  
 JASON L. STARR

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CROSS SECTIONS

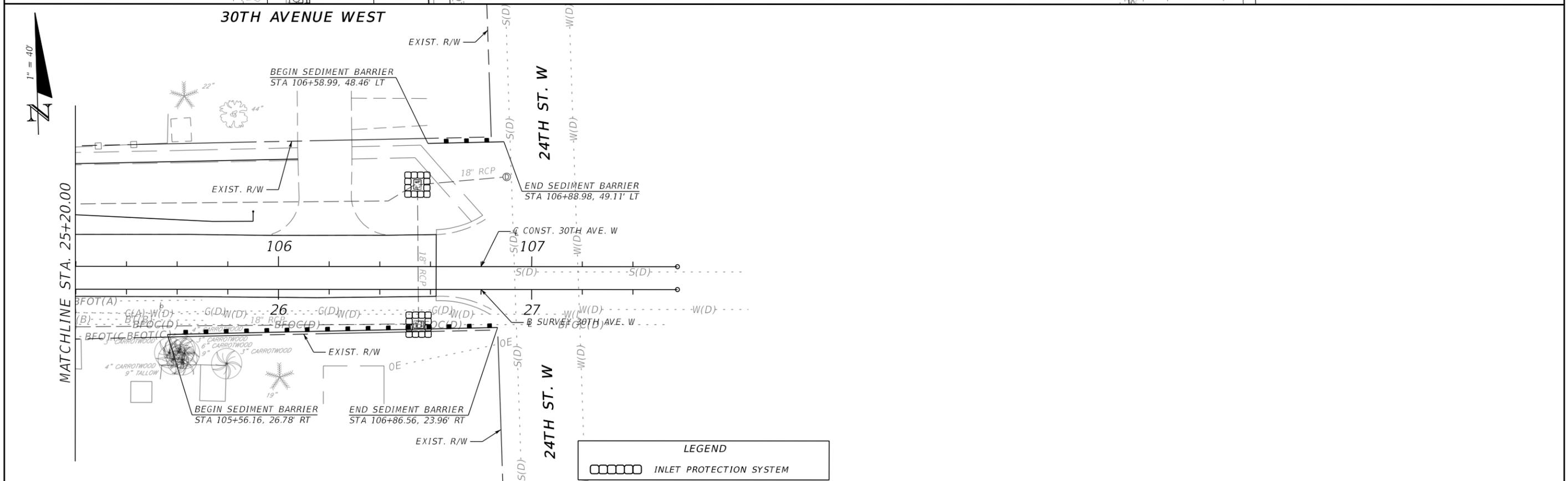
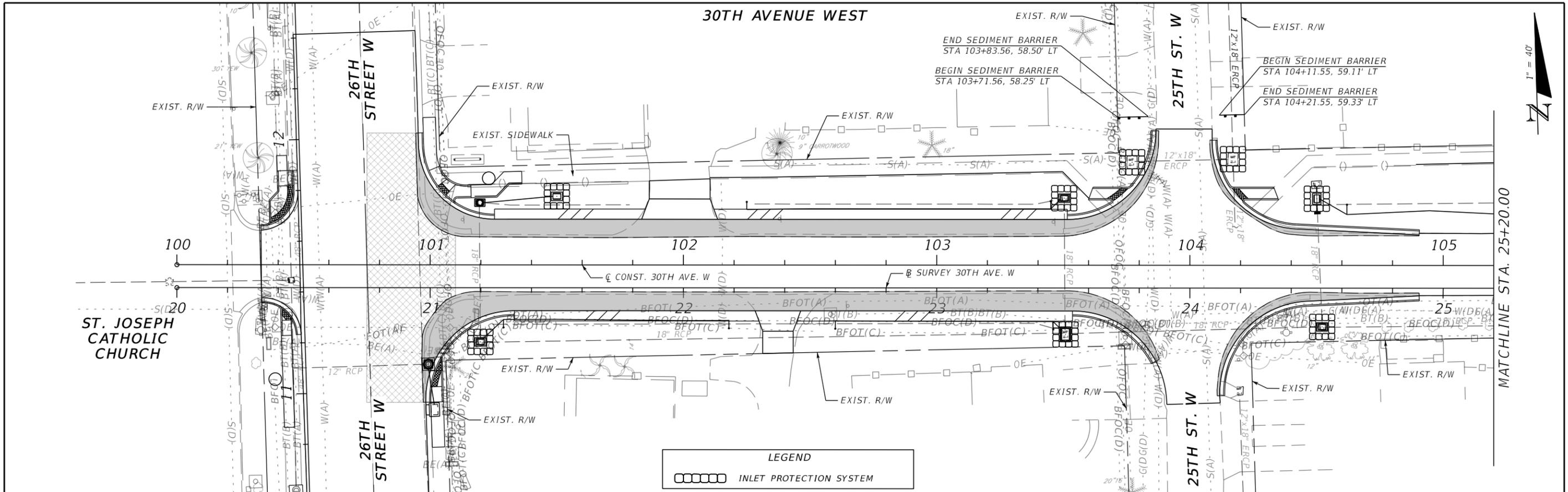
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11/20/2020

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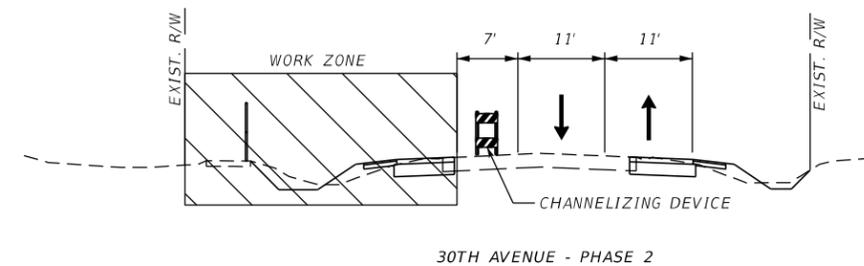
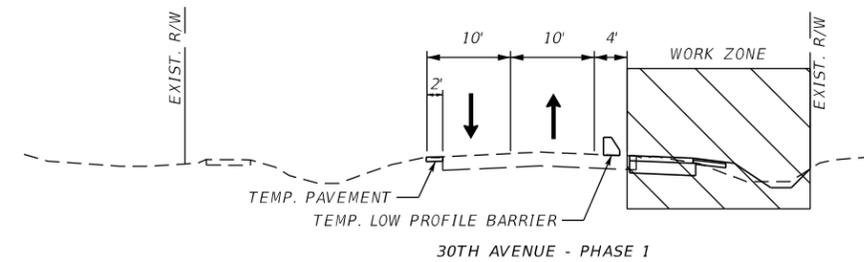


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No.	DATE	BY																			

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**TRAFFIC CONTROL GENERAL NOTES**

1. THE COST OF MAINTENANCE OF TRAFFIC OPERATIONS SHALL BE INCLUDED UNDER THE LUMP SUM PAY ITEM, UNLESS A SEPARATE PAY ITEM IS PROVIDED.
2. CONTRACTOR SHALL MAINTAIN SUFFICIENT TRAVEL WAYS TO PROVIDE INGRESS AND EGRESS AS WELL AS SAFE BARRICADES TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES.
3. TRAFFIC CONDITIONS, ACCIDENTS, AND OTHER UNFORESEEN EMERGENCY CONDITIONS MAY REQUIRE THE COUNTY TO RESTRICT OR REMOVE LANE CLOSURES OR CHANNELIZATIONS SHOWN IN THE PLANS. THE CONTRACTOR SHALL RESPOND AND PROVIDE ADJUSTMENTS AS DIRECTED BY THE COUNTY WITHOUT DELAY UNDER THESE CONDITIONS. THE CONTRACTOR SHALL ALSO RESPOND WITHIN TIME CONSTRAINTS OUTLINED IN THE STANDARD SPECIFICATIONS UPON NOTIFICATION BY THE COUNTY TO ANY REQUESTS FOR CORRECTION, IMPROVEMENT, OR MODIFICATION TO THE TRAFFIC CONTROL PLAN AND/OR DEVICES. ALL COSTS SHALL BE INCLUDED IN THE BID PRICE FOR MAINTENANCE OF TRAFFIC.
4. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2009) AND FDOT STANDARD PLANS.
5. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN TEMPORARY DRAINAGE AND EROSION CONTROL FACILITIES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY. POSITIVE DRAINAGE OFF OF THE TRAVELED ROADWAY SHALL BE MAINTAINED AT ALL TIMES.
6. FOR SIDE STREET INTERSECTIONS, LANE CLOSURE SHALL BE LIMITED TO ONE LANE AT ALL TIMES, EXCEPT FOR SPECIFIED DETOURS. AT A MINIMUM, ONE-LANE, TWO-WAY OPERATION SHALL BE MAINTAINED THROUGH THE USE OF FLAGGERS. TWO-LANE, TWO-WAY OPERATION SHALL BE MAINTAINED DURING PERIODS OF LANE CLOSURE RESTRICTIONS AND WHEN CONSTRUCTION ACTIVITIES ARE BEYOND THE LIMITS OF THE INTERSECTIONS.
7. TRAFFIC CONTROL SHALL FOLLOW STANDARD PLANS 102-600, 102-602 AND 102-603 - TWO-LANE, TWO-WAY WORK ON SHOULDER OR IN TRAVEL WAY AS NEEDED.



**TRAFFIC CONTROL PHASING NOTES**

PHASE 1: THE INTENT OF PHASE 1:  
 CONSTRUCT PROPOSED RIGHT SIDE WIDENING AND PAVED SHOULDER ON 30TH AVENUE.  
 CONSTRUCT DRAINAGE IMPROVEMENTS AND STORMWATER MANAGEMENT FACILITIES.

- STAGE 1:  
 -INSTALL ALL ADVANCED WARNING DEVICES FOR MAINLINE AND SIDE STREETS.
- STAGE 2:  
 -PRIOR TO TRAFFIC SHIFT FOR WORK ZONE, CONSTRUCT 2' TEMPORARY PAVEMENT ON LEFT SIDE OF 30TH AVENUE TO MAINTAIN TRAVEL LANES. TRAVEL LANES SHALL BE 10-FT WIDE (MIN.)
- STAGE 3:  
 -INSTALL TEMPORARY DEVICES FOR TRAFFIC SHIFT  
 -CONSTRUCT RIGHT SIDE WIDENING. TRAFFIC IS MAINTAINED ON EXISTING PAVEMENT AND TEMPORARY PAVEMENT.  
 -CONSTRUCT PROPOSED DRAINAGE IMPROVEMENTS.

PHASE 2: THE INTENT OF PHASE 2:  
 CONSTRUCT PROPOSED LEFT SIDE WIDENING AND PAVED SHOULDER ON 30TH AVENUE.  
 CONSTRUCT DRAINAGE IMPROVEMENTS AND STORMWATER MANAGEMENT FACILITIES.  
 CONSTRUCT PEDESTRIAN GUIDERAIL ON EXISTING SIDEWALK AT LEFT SIDE OF 30TH AVENUE.  
 CONSTRUCT SIGNALS AND PEDESTRIAN CONTROLS AT INTERSECTION.

- STAGE 1:  
 -MAINTAIN ALL ADVANCED WARNING DEVICES FOR MAINLINE AND SIDE STREETS.
- STAGE 2:  
 -INSTALL TEMPORARY DEVICES FOR TRAFFIC SHIFT.  
 -CONSTRUCT LEFT SIDE WIDENING. TRAFFIC IS MAINTAINED ON EXISTING PAVEMENT AND NEW PAVEMENT FROM PHASE 1. TRAVEL LANES SHALL BE 11-FT WIDE (MIN.)  
 -INSTALL GUIDERAIL ON EXISTING SIDEWALK.  
 -CONSTRUCT PROPOSED DRAINAGE IMPROVEMENTS.  
 -CONSTRUCT SIGNAL AND MAST ARM FOUNDATION AT SOUTHWEST CORNER AND NORTHEAST CORNER OF INTERSECTION WITH 26TH STREET.  
 -CONSTRUCT PEDESTRIAN CONTROLS AT INTERSECTION WITH 26TH STREET.

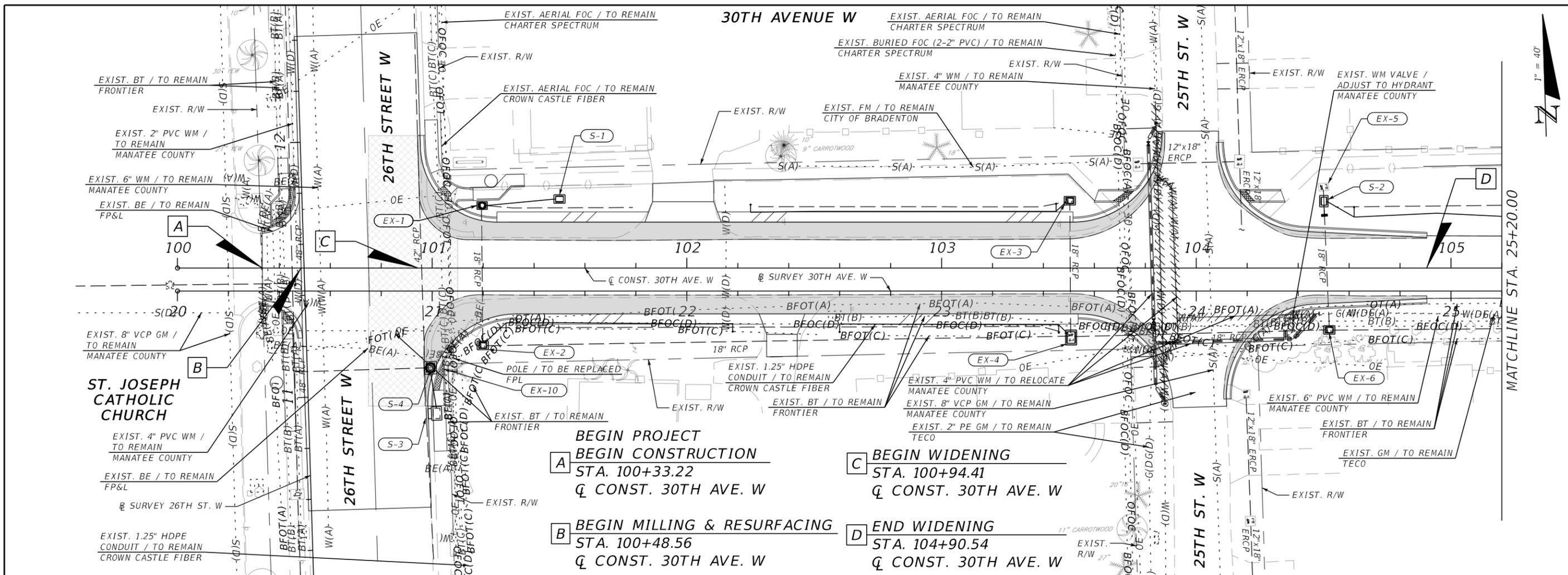
PHASE 3: THE INTENT OF PHASE 3:  
 CONSTRUCT MILLING AND RESURFACING ON 26TH STREET WEST AND 30TH AVENUE.  
 INSTALL FRICTION COURSE AND FINAL PAVEMENT MARKINGS.

- STAGE 1:  
 -COMPLETE MILLING OF 26TH STREET WEST AND 30TH AVENUE USING STANDARD MILLING PRACTICES AND WORK ZONE CONTROL.

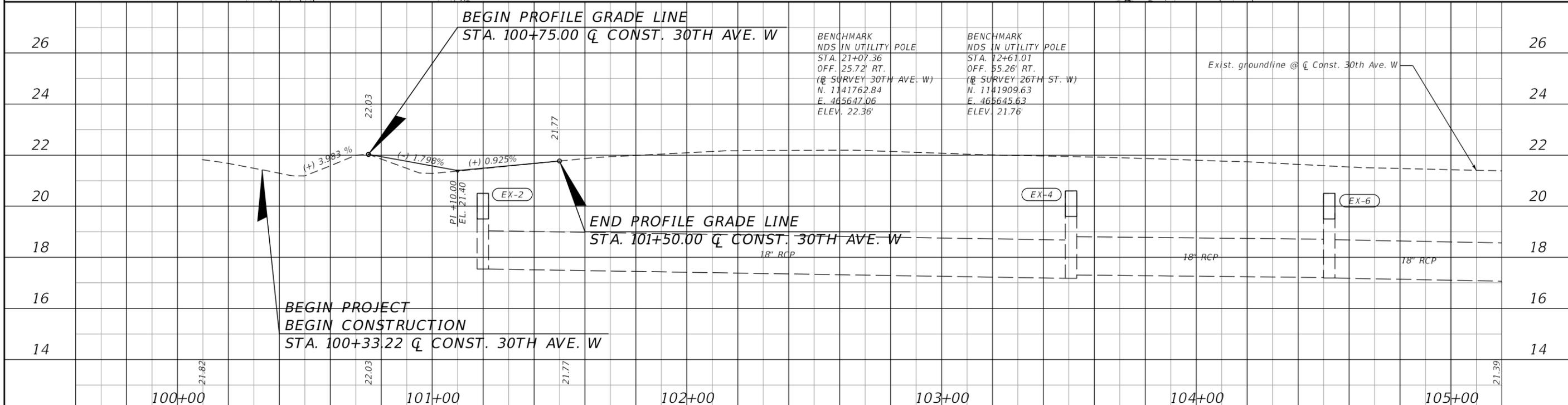
- STAGE 2:  
 -RESURFACE AND ADD FINAL LIFT OF PAVEMENT ON 26TH STREET WEST AND 30TH AVENUE USING STANDARD PRACTICES AND WORK ZONE CONTROL. INSTALL FINAL PAVEMENT MARKINGS.

				SCALE	AS NOTED			DATE	11/2020	DESIGN ENGINEER	JASON L. STARR	SHEET NO.
				DESIGNED BY	JLS		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	PROJECT NO.	6092460	FL. LICENSE NO.	70171	
				DRAWN BY	JHC		MANATEE COUNTY PUBLIC WORKS					17
				CHECKED BY	JLS							
No.	REVISIONS		DATE	BY								

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



- A** BEGIN PROJECT  
STA. 100+33.22  
Q CONST. 30TH AVE. W
- B** BEGIN MILLING & RESURFACING  
STA. 100+48.56  
Q CONST. 30TH AVE. W
- C** BEGIN WIDENING  
STA. 100+94.41  
Q CONST. 30TH AVE. W
- D** END WIDENING  
STA. 104+90.54  
Q CONST. 30TH AVE. W



	SCALE AS NOTED	<b>HDR</b>	DATE 11/2020	<b>Manatee County</b> MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	
	DESIGNED BY JLS		PROJECT NO. 6092460		FL. LICENSE NO. 70171	SHEET NO. 18
	DRAWN BY JHC					
	CHECKED BY JLS					
No.	REVISIONS	DATE	BY			

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

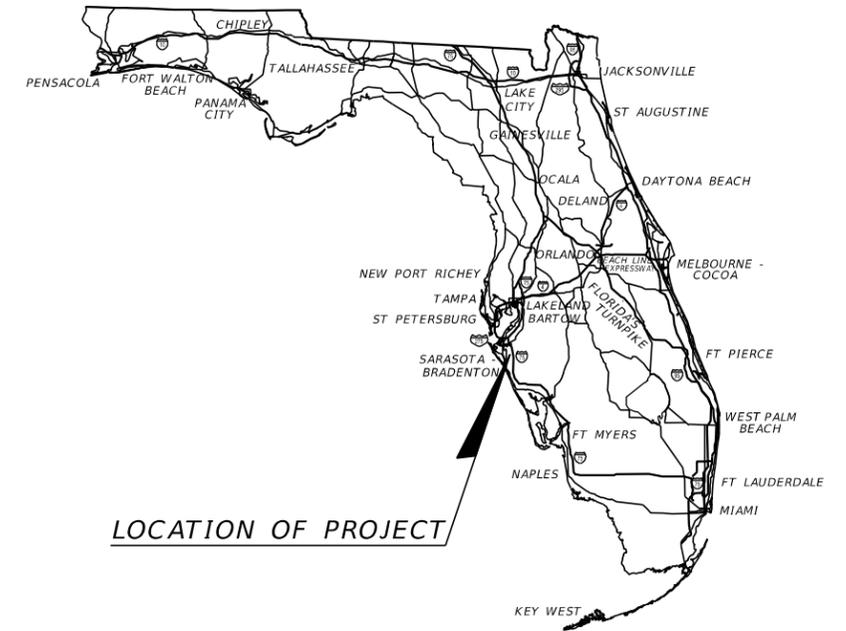




**MANATEE COUNTY  
PUBLIC WORKS DEPARTMENT**

**CONTRACT PLANS**

**MANATEE COUNTY  
PROJECT NUMBER 6092460  
26TH STREET WEST AT 30TH AVENUE WEST  
INTERSECTION IMPROVEMENTS  
SIGNING AND PAVEMENT MARKING PLANS**

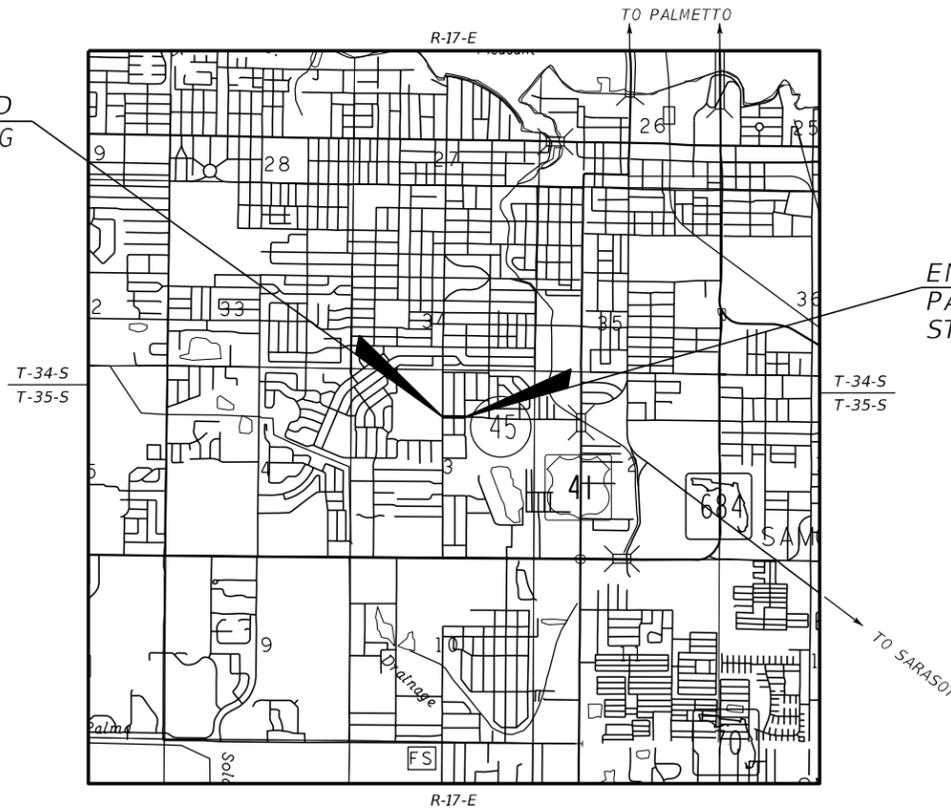


LOCATION OF PROJECT

**INDEX OF SIGNING AND PAVEMENT MARKING PLANS**

SHEET NO.	SHEET DESCRIPTION
S-1	KEY SHEET
S-2	SIGNATURE SHEET
S-3	TABULATION OF QUANTITIES
S-4	GENERAL NOTES
S-5 - S-6	SIGNING AND PAVEMENT MARKING PLAN
S-7	GUIDE SIGN WORKSHEET
S-8	SIGN CROSS SECTION

BEGIN SIGNING AND  
PAVEMENT MARKING  
STA. 100+33.22



END SIGNING AND  
PAVEMENT MARKING  
STA. 106+62.27

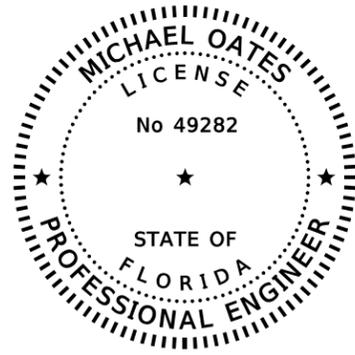
**SIGNING AND PAVEMENT MARKING PLANS  
ENGINEER OF RECORD:**

MICHAEL J. OATES, P.E.  
P.E. NO.: 49282  
HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232  
VENDOR NO. 47-0680568  
CONTRACT NO. 15-0909JE

MANATEE CO. PROJECT MANAGER:  
ERIC S. SHROYER, P.E.

FISCAL YEAR	SHEET NO.
21	S-1

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



THIS ITEM HAS BEEN DIGITALLY  
SIGNED AND SEALED BY:

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

HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232-6212  
MICHAEL OATES, P.E. NO. 49282

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
S-1	KEY SHEET
S-2	SIGNATURE SHEET
S-3	TABULATION OF QUANTITIES
S-4	GENERAL NOTES
S-5 - S-6	SIGNING AND PAVEMENT MARKING PLAN
S-7	GUIDE SIGN WORKSHEET
S-8	SIGN CROSS SECTION

				SCALE	AS NOTED			DATE	11/2020	DESIGN ENGINEER	MICHAEL J. OATES	SHEET NO.		
				DESIGNED BY	MJO		PROJECT NO.		6092460	MANATEE COUNTY PUBLIC WORKS		FL. LICENSE NO.	49282	SIGNATURE SHEET
				DRAWN BY	SS		CHECKED BY		IR					
No.	REVISIONS			DATE	BY									S-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			S-5		S-6															
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL		
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	1														1	1		
700-1-50	SINGLE POST SIGN, RELOCATE	AS	6														6	6		
700-1-74	SINGLE POST SIGN, F&I CUSTOM, 31+ SF	AS	2														2	2		
700-3-101	SIGN PANEL, F&I GROUND MOUNT, UP TO 12 SF	EA	3														3	3		
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS															1	1		
*	RETRO-REFLECTIVE PAVEMENT MARKERS (WHITE/RED)	EA	21														21	111		
	(YELLOW/YELLOW)		82		8												90			
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.179		0.054												0.232	0.232		
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF	382														382	382		
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE, 24"	LF	173														173	173		
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 10-30 OR 3-9 SKIP, 6" WIDE	GM	0.023														0.023	0.023		
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE SCHOOL	EA	1														1	1		
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS RIGHT	EA	3														3	7		
	LEFT		4														4			
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID FOR DIAGONAL OR CHEVRON, 18"	LF	87														87	87		
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, 2-4 DOTTED GUIDELINE/6-10 DOTTED EXTENSION, 6"	GM	0.019														0.019	0.019		
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM	0.263		0.054												0.316	0.316		
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	382														382	382		
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE	LF	173														173	173		
711-11-160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE SCHOOL	EA	1														1	1		
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW RIGHT	EA	3														3	7		
	LEFT		4														4			
711-11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	87														87	87		
711-11-241	THERMOPLASTIC, STANDARD, YELLOW, 2-4 DOTTED GUIDE LINE /6-10 DOTTED EXTENSION LINE, 6"	GM	0.019														0.019	0.019		
711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	216														216	216		
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.179		0.054												0.232	0.232		
711-16-131	THERMOPLASTIC, OTHER SURFACES, WHITE, SKIP, 6",10-30 SKIP OR 3-9 LANE DROP	GM	0.023														0.023	0.023		
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.263		0.054												0.316	0.316		

\* THESE QUANTITIES ARE PAID FOR UNDER PAINTED 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.

SCALE AS NOTED		 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232	DATE 11/2020	 <b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER MICHAEL J. OATES	<b>TABULATION OF QUANTITIES</b>	SHEET NO. S-3
DESIGNED BY MJO			PROJECT NO. 6092460		FL. LICENSE NO. 49282		
DRAWN BY SS							
CHECKED BY IR							
No.	REVISIONS	DATE	BY				

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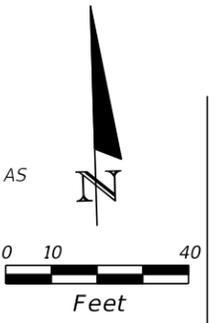
SIGNING AND PAVEMENT MARKING GENERAL NOTES:

1. ALL PAVEMENT MARKINGS WITHIN THE MANATEE COUNTY RIGHT-OF-WAY SHALL BE THERMOPLASTIC.
2. REFER TO F.D.O.T. STANDARD PLANS INDEX NO. 706-001 FOR RETRO-REFLECTIVE PAVEMENT MARKER PLACEMENT DETAILS.
3. CAUTION SHALL BE EXERCISED WHILE RELOCATING EXISTING SIGNS SO AS TO PREVENT DAMAGE TO THE SIGNS. IF THE SIGNS ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, THEY SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
4. THE SIGN LOCATIONS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENT AS DIRECTED BY THE ENGINEER.
5. ANY EXISTING SIGN TO REMAIN THAT IS DISTURBED DURING CONSTRUCTION OR RELOCATED SHALL BE RESET TO CURRENT STANDARDS FOR HEIGHT, OFFSET, AND METHOD OF INSTALLATION. COST OF THIS WORK SHALL BE REFLECTED IN THE PAY ITEM NO. 102-1 IN THE SUMMARY OF ROADWAY PAY ITEMS.
6. CONTRACTOR SHALL USE W-SHAPE STEEL POSTS FOR MULTI-POST SIGNS. ALL COLUMNS (POSTS) FOR SINGLE COLUMN SIGNS SHALL BE U-CHANNEL POST, UNLESS OTHERWISE INDICATED IN THE PLANS.
7. ALL SINGLE COLUMN SIGNS WITHIN THE LIMITS OF CLEARING AND GRUBBING SHALL BE REMOVED UNLESS OTHERWISE NOTED IN THE PLANS. PAYMENT SHALL BE REFLECTED IN THE PAY ITEM NO. 110-1-1 IN THE SUMMARY OF ROADWAY PAY ITEMS.
8. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE IN CLOSE PROXIMITY TO SIGN FOUNDATIONS AS DETERMINED BY THE CONTRACTOR, THE CONTRACTOR SHALL HAND DIG THE FIRST FOUR FEET OF THE HOLE FOR THE MULTI POST OR SINGLE COLUMN CANTILEVER SIGN FOUNDATIONS.
9. UNLESS OTHERWISE NOTED ON PLAN SHEETS, ALL CROSSWALKS SHALL BE SIX FEET (6') OR EIGHT FEET (8') IN WIDTH. MEASUREMENTS SHALL BE FROM INSIDE TO INSIDE OF 12" STRIPES.
10. WHERE EXISTING STREET NAME SIGNS ARE RELOCATED ONTO PROPOSED STOP SIGN ASSEMBLIES, THE COST IS TO BE INCLUDED UNDER THE RELATED PAY ITEM.
11. SUPPLEMENTAL SIGN PANELS (W16-7PL) SHALL MATCH THE COLOR COMBINATION OF THE RESPECTIVE SIGN WHICH THEY SUPPLEMENT.

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			SCALE	AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232	DATE	 <b>MANATEE COUNTY</b> PUBLIC WORKS	DESIGN ENGINEER	<b>GENERAL NOTES</b>	SHEET NO.
			DESIGNED BY	MJO		11/2020		MICHAEL J. OATES		
			DRAWN BY	SS		PROJECT NO.		FL. LICENSE NO.		
			CHECKED BY	IR		6092460		49282		
No.	REVISIONS	DATE	BY							S-4

30TH AVENUE WEST



**30th Ave W**  
NEXT SIGNAL

SIGN 1  
96" x 36"  
700-1-74 1 AS  
630' NORTH OF STOP BAR

W16-7PL  
24" x 12"  
700-1-50 1 AS  
700-3-101 1 EA  
STA. 100+38

W16-7PL  
24" x 12"  
700-1-50 1 AS  
700-3-101 1 EA  
STA. 101+26

700-1-50 1 AS  
STA. 103+76

700-1-50 1 AS  
STA. 103+46

R3-8MOD  
36" x 36"  
700-1-11 1 AS  
STA. 103+00

700-1-50 1 AS  
STA. 102+38

W16-7PL  
24" x 12"  
700-1-50 1 AS  
700-3-101 1 EA  
STA. 101+06

SIGN 1  
96" x 36"  
700-1-74 1 AS  
800' SOUTH OF STOP BAR

MATCHLINE 105+20.00

BEGIN SIGNING AND  
PAVEMENT MARKING  
STA. 100+33.22

EXISTING SIGNS  
TO REMAIN

ST. JOSEPH  
CATHOLIC  
CHURCH

EXISTING FLASHING  
BEACON AND SIGN  
ASSEMBLY TO REMAIN

**30th Ave W**  
NEXT SIGNAL

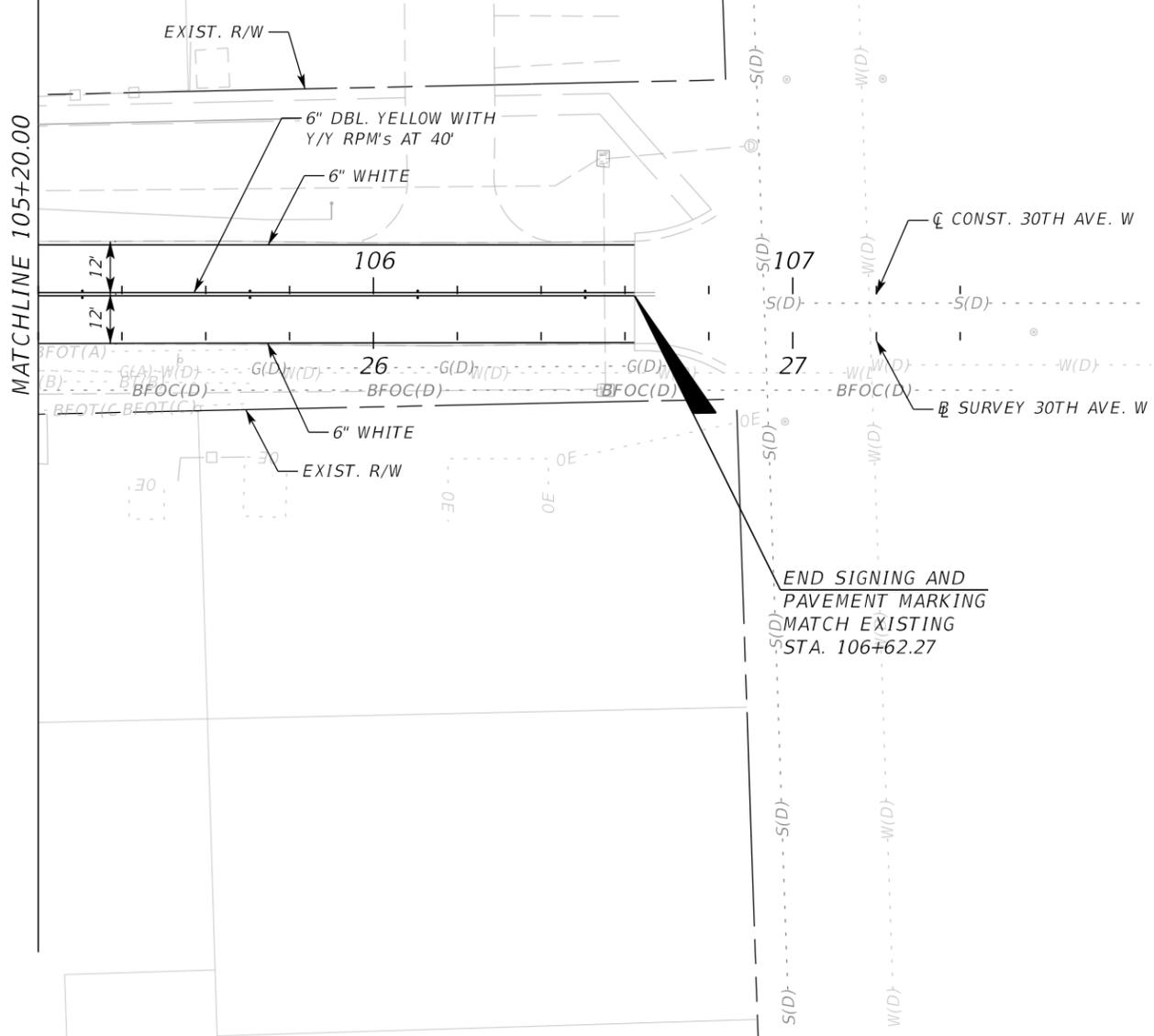
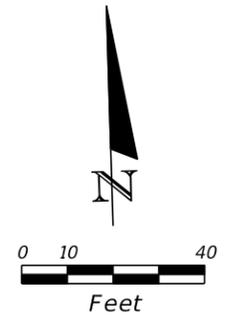
STOP

EXISTING SIGN  
TO REMAIN

SCALE AS NOTED				DATE 11/2020		DESIGN ENGINEER MICHAEL J. OATES		SHEET NO. S-5	
DESIGNED BY MJO				PROJECT NO. 6092460		FL. LICENSE NO. 49282		SIGNING AND PAVEMENT MARKING PLAN (I)	
DRAWN BY SS				12:06:50 PM		PW:\			
CHECKED BY IR				12/24/2020					
No.	REVISIONS	DATE	BY	HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232		MANATEE COUNTY PUBLIC WORKS			

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30TH AVENUE WEST



MATCHLINE 105+20.00

END SIGNING AND  
PAVEMENT MARKING  
MATCH EXISTING  
STA. 106+62.27

				SCALE AS NOTED	DATE 11/2020		DESIGN ENGINEER MICHAEL J. OATES	SHEET NO.  S-6
				DESIGNED BY MJO	PROJECT NO. 6092460		FL. LICENSE NO. 49282	
				DRAWN BY SS	PROJECT NO. 6092460		SIGNING AND PAVEMENT MARKING PLAN (2)	
				CHECKED BY IR	PROJECT NO. 6092460			
No.	REVISIONS			DATE	BY			



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232



MANATEE COUNTY  
PUBLIC WORKS

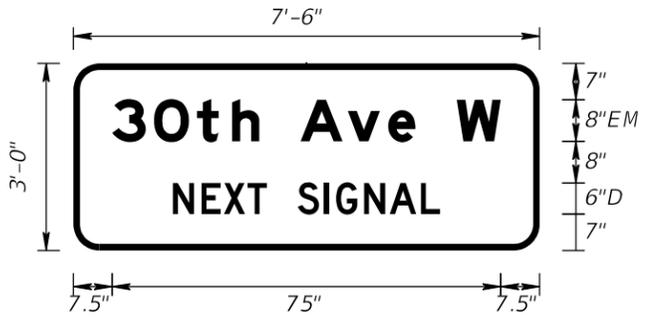
1:44:27 PM

11/20/2020

PW:\

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SIGN NAME	Sign 1		QTY	2	SIGN NUMBER		STATION(S)	
PANEL	BORDER							
WIDTH	7'-6"	WIDTH	1.25"					
HEIGHT	3'-0"	RADII	5"					
LEGEND	White	COLOR	White					
COLOR	Green							
SYMBOL(S)	ANGLE	X	Y	WID	HT			
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH				



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		3	0	t	h		A	v	e		W	L								
SPACE	7.5	8.1	8.3	6.7	5.3	8	9.1	7.8	5.3	8	8.5	7.5	7.5							
COPY		N	E	X	T		S	I	G	N	A	L	L							
SPACE	19.2	5.5	4.3	4.6	3.7	6	5.1	2.3	5.4	5	6	3.7	19.2	51.6						
COPY																				
SPACE																				
COPY																				
SPACE																				
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SPACE																				

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

THIS SPACE INTENTIONALLY LEFT BLANK

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

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

THIS SPACE INTENTIONALLY LEFT BLANK

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

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

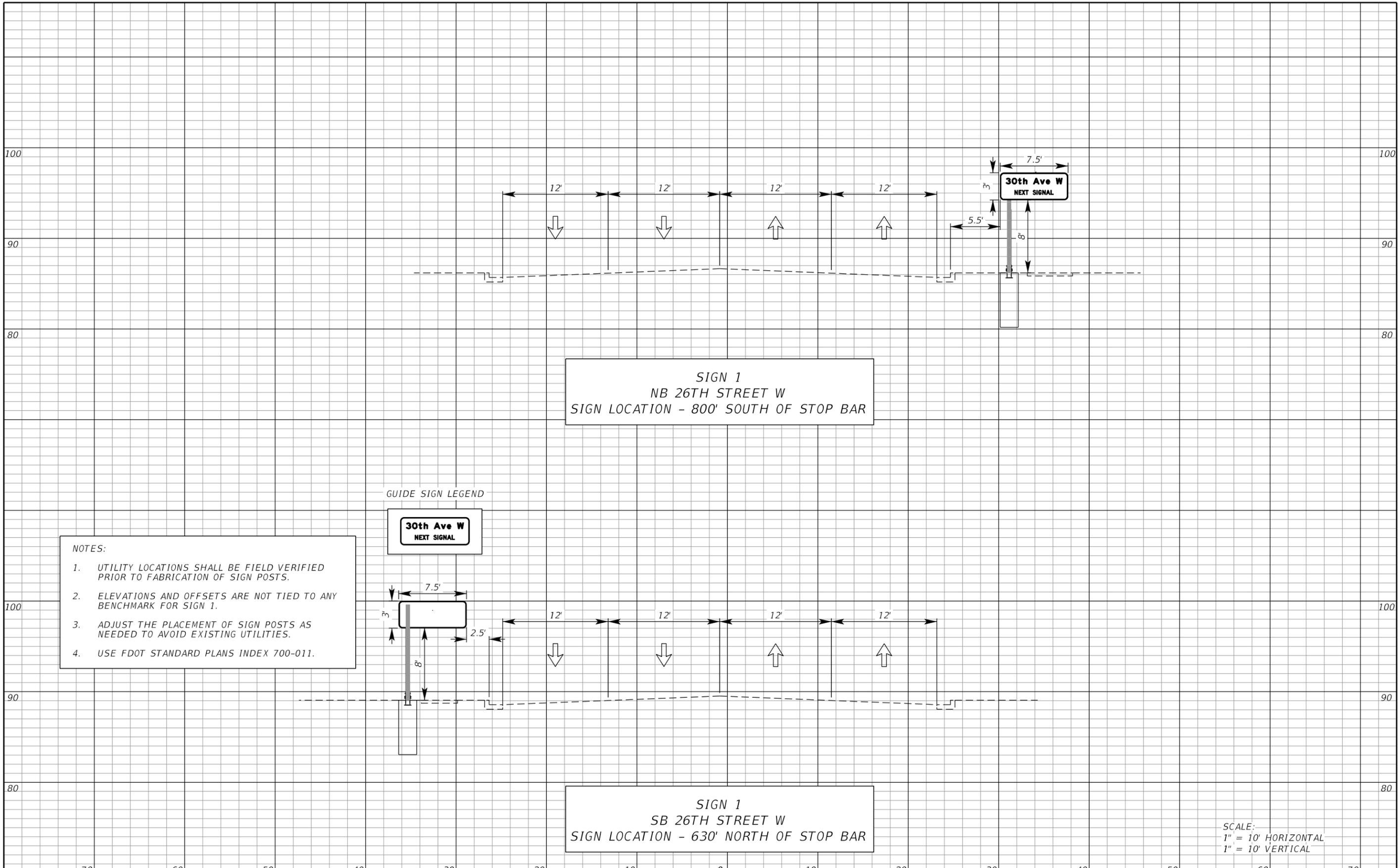
THIS SPACE INTENTIONALLY LEFT BLANK

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY																				
SPACE																				
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No.	REVISIONS		DATE	BY	SCALE	AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232	DATE	11/2020	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	<b>GUIDE SIGN WORKSHEET</b>	SHEET NO.	S-7
					DRAWN BY	MJO		PROJECT NO.	6092460		FL. LICENSE NO.	49282			
					CHECKED BY	SS									
						IR									

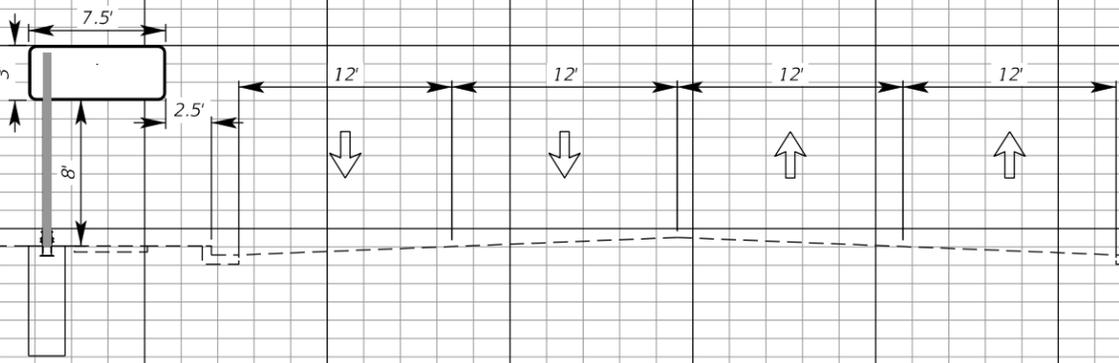


SIGN 1  
NB 26TH STREET W  
SIGN LOCATION - 800' SOUTH OF STOP BAR

GUIDE SIGN LEGEND



- NOTES:
1. UTILITY LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF SIGN POSTS.
  2. ELEVATIONS AND OFFSETS ARE NOT TIED TO ANY BENCHMARK FOR SIGN 1.
  3. ADJUST THE PLACEMENT OF SIGN POSTS AS NEEDED TO AVOID EXISTING UTILITIES.
  4. USE FDOT STANDARD PLANS INDEX 700-011.



SIGN 1  
SB 26TH STREET W  
SIGN LOCATION - 630' NORTH OF STOP BAR

SCALE:  
1" = 10' HORIZONTAL  
1" = 10' VERTICAL

SCALE AS NOTED		<p>HDR Engineering, Inc. 2601 Cattlemen Road, Suite 400 Sarasota, FL 34232</p>	DATE 11/2020	<p>MANATEE COUNTY PUBLIC WORKS</p>	DESIGN ENGINEER MICHAEL J. OATES	<p><b>SIGN CROSS SECTION</b></p>	SHEET NO. S-8
DESIGNED BY MJO			PROJECT NO. 6092460		FL. LICENSE NO. 49282		
DRAWN BY SS							
CHECKED BY IR							
No.	REVISIONS	DATE	BY				

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11/20/2020

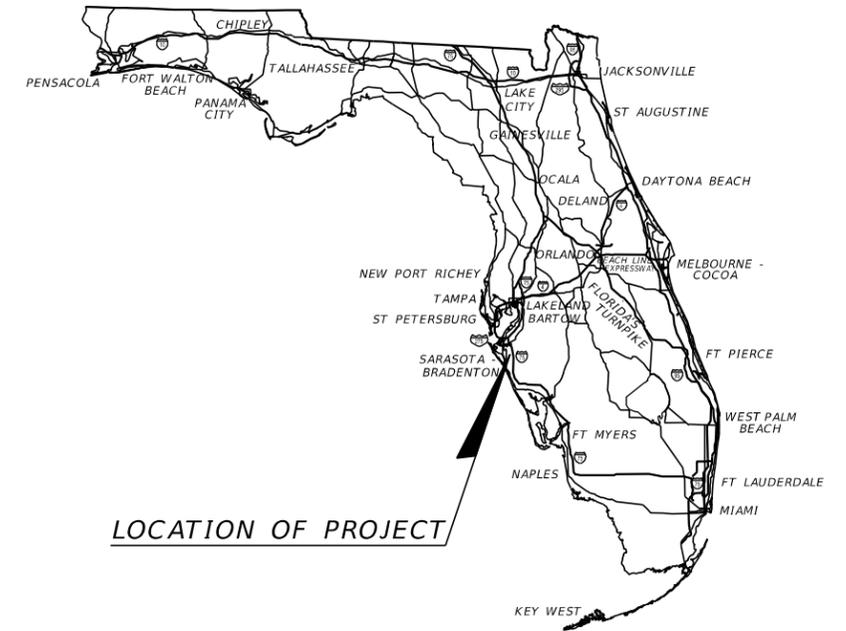
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**MANATEE COUNTY  
PUBLIC WORKS DEPARTMENT**

**CONTRACT PLANS**

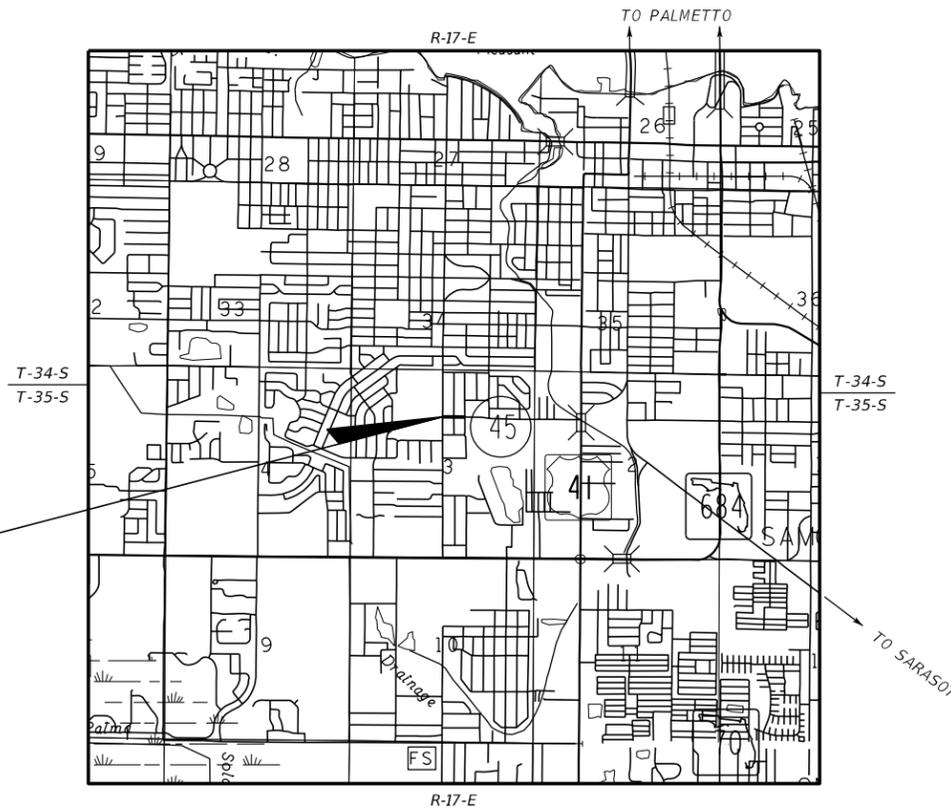
**MANATEE COUNTY  
PROJECT NUMBER 6092460  
26TH STREET WEST AT 30TH AVENUE WEST  
INTERSECTION IMPROVEMENTS  
SIGNALIZATION PLANS**



LOCATION OF PROJECT

**INDEX OF SIGNALIZATION PLANS**

SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3	TABULATION OF QUANTITIES
T-4	GENERAL NOTES
T-5	PAY ITEM NOTES
T-6	SIGNALIZATION PLAN
T-7	GUIDE SIGN WORKSHEET
T-8	MAST ARM TABULATION
T-9	SPLICING DIAGRAM
T-10	CABINET, CCTV, MVDS AND BLUETOOTH DETAILS
T-11	CONCRETE APRON & CABLE ROUTE MARKER DETAILS
T-12	PEDESTRIAN SIGNAL AND CABINET BASE DETAILS
T-13	GENERATOR CABINET WIRING DIAGRAM
T-14	MAST ARM DATA TABLE



SIGNALIZATION  
26TH STREET W AT 30TH AVENUE W  
STA. 100+70.00

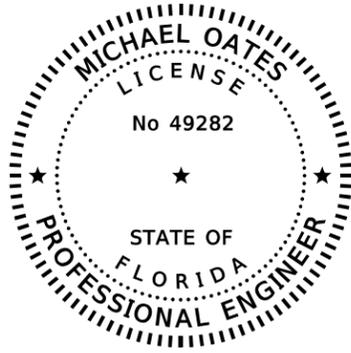
**SIGNALIZATION PLANS  
ENGINEER OF RECORD:**

MICHAEL J. OATES, P.E.  
P.E. NO.: 49282  
HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232  
VENDOR NO. 47-0680568  
CONTRACT NO. 15-0909JE

MANATEE CO. PROJECT MANAGER:  
ERIC S. SHROYER, P.E.

FISCAL YEAR	SHEET NO.
21	T-1

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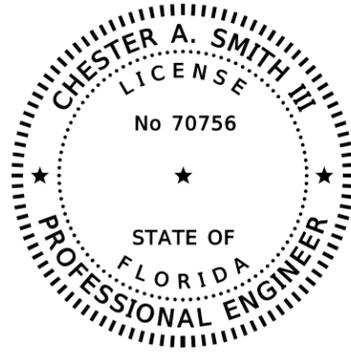
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HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232-6212  
MICHAEL OATES, P.E. NO. 49282

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
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T-13	GENERATOR CABINET WIRING DIAGRAM



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HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232-6212  
CHESTER A. SMITH III, P.E. NO. 70756

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-14	MAST ARM DATA TABLE

SCALE	AS NOTED		
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HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232

DATE

11/2020

PROJECT NO.

6092460



MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER

MICHAEL J. OATES

FL. LICENSE NO.

49282

SHEET NO.

T-2

**SIGNATURE SHEET**

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			T-6		PLAN	FINAL	PLAN	FINAL	PLAN	FINAL										
			PLAN	FINAL																
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	120															120	120	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	320															320	320	
632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1															1	1	
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF	155															155	155	
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	4															4	4	
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	1															1	1	
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED PATCH PANEL	EA	1															1	1	
633-3-51	FIBER OPTIC CONNECTION HARDWARE, MODIFY SPLICE ENCLOSURE	EA	1															1	1	
633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, F&I, MVDS & CCTV	LF	1010															1010	1010	
635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA	15															15	15	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1															1	1	
639-1-620	ELECTRICAL POWER SERVICE, REMOVE COMPLETE SERVICE	AS	1															1	1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	100															100	100	
**639-4-6	EMERGENCY GENERATOR - PORTABLE, FURNISH & INSTALL HOUSING ONLY	EA	1															1	1	
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 SERVICE POLE	EA	1															1	1	
641-2-80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- POLE 30' AND GREATER	EA	4															4	4	
646-1-11	ALUMINUM SIGNALS POLE, FURNISH AND INSTALL, PEDESTAL	EA	5															5	5	
649-21-13	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60-50'	EA	2															2	2	
650-1-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	10															10	10	
650-1-16	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS	2															2	2	
650-1-19	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 5 SECTION CLUSTER, 1 WAY	AS	3															3	3	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4															4	4	
653-1-12	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 2 WAY	AS	1															1	1	
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1															1	1	
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	6															6	6	
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA	1															1	1	
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	1															1	1	
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA	6															6	6	
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1															1	1	
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	1															1	1	
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1															1	1	
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1															1	1	
685-1-12	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA	1															1	1	
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	8															8	8	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	6															6	6	
700-11-391	ELECTRONIC DISPLAY SIGN, FURNISH & INSTALL OVERHEAD MOUNT- AC POWERED, BLANK OUT SIGN, UP TO 12 SF	AS	1															1	1	
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	1075															1075	1075	
715-5-31	LUMINAIRE & BRACKET ARM- ALUMINUM, F & I NEW LUMINAIRE AND ARM ON NEW/EXISTING POLE	EA	2															2	2	

\*\* SEE PAY ITEM NOTE NO. 5 FOR ADDITIONAL DETAILS

SCALE AS NOTED		 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES  FL. LICENSE NO. 49282	SHEET NO.  T-3
DESIGNED BY			11/2020		PROJECT NO.		
DRAWN BY			6092460				
CHECKED BY							
No.	REVISIONS	DATE	BY	IR			

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. THE CONTRACTOR SHALL CONTACT THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S PROJECT MANAGEMENT DIVISION BEFORE STARTING WORK.
2. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S TRAFFIC ENGINEERING DIVISION (941-749-3502 EXT. 7817). 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.
3. AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO BEGINNING THE TRAFFIC SIGNAL INSTALLATION, PERMITTEE TO CONTACT THE TRAFFIC SIGNAL INSPECTOR/LIAISON:  
  
MANATEE COUNTY PROJECT MANAGEMENT DIVISION  
ERIC S. SHROYER, P.E.  
1022 26TH AVENUE EAST  
BRADENTON, FLORIDA 34208  
PHONE: 941-708-7450 EXT. 7344
4. ONE WEEK PRIOR TO THE BEGINNING OF THE TRAFFIC SIGNAL INSTALLATION OR TURN ON OF A NEW SIGNAL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER:  
  
MANATEE COUNTY PROJECT MANAGEMENT DIVISION  
ERIC S. SHROYER, P.E.  
1022 26TH AVENUE EAST  
BRADENTON, FLORIDA 34208  
PHONE: 941-708-7450 EXT. 7344  
  
MANATEE COUNTY TRAFFIC ENGINEERING DIVISION  
VISHAL KAKKAD  
2101 47TH TERRACE EAST  
BRADENTON, FLORIDA 34203  
PHONE: 941-749-3500 EXT. 7812
5. DELIVER THREE SETS OF RECORD DRAWINGS, TWO SETS OF IMSA INSPECTION FORMS AND ONE COMPACT DISC OF RECORD DRAWINGS TO MR. VISHAL KAKKAD, THE MANATEE COUNTY TRAFFIC ENGINEERING DIVISION MANAGER AT 2101 47TH TERRACE EAST BRADENTON, FL 34203. RECORD DRAWINGS MUST BE DELIVERED TO THE COUNTY 48 HOURS PRIOR TO SCHEDULING THE FINAL INSPECTION.
6. UPON PASSING THE FINAL INSPECTION THE CONTRACTOR SHALL SEND A WRITTEN REQUEST TO THE PROJECT MANAGEMENT DIVISION AND THE TRANSPORTATION 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.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LOCAL POWER COMPANY PROVIDING ELECTRICAL POWER TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. ANY FEE SHALL BE INCLUDED AS PART OF PAYMENT FOR THE ELECTRICAL POWER SERVICE ASSEMBLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS OF THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION, INSPECTION AND ENERGIZING OF THE NEW POWER SERVICE IN A TIMELY MANNER IN ORDER TO PROMOTE PROJECT COMPLETION WITHIN CONTRACT TIME.
8. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR, VIA SUNSHINE STATE ONE CALL OF FLORIDA, INC AT 811 OR 1-800-432-4770. IN COORDINATION WITH UNDERGROUND AND OVERHEAD UTILITY OWNERS. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION.
9. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS IN ADVANCE OF POLE SETTING OPERATIONS WHERE CONFLICT WITH OVERHEAD ELECTRICAL CONDUCTORS IS EXPECTED AND IN ALL CASES WHERE JOINT USE POLES ARE CALLED FOR.  
  
THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES AT SIGNAL POLES SUCH AS THE INSTALLATION OF SIGNAL CABLE, FIBERGLASS INSULATORS, AND SIGNAL POLES.  
  
AT LOCATIONS WHERE THE REQUIRED VERTICAL CLEARANCE TO THE POWER LINES CANNOT BE MAINTAINED, A QUALIFIED REPRESENTATIVE FROM THE POWER COMPANY SHALL BE PRESENT DURING ALL WORK UNDER POWER LINES. ANY COST ASSOCIATED WITH THIS SHALL BE INCLUDED IN THE RELATED PAY ITEMS.
10. THE CONTRACTOR SHALL HAND DIG THE FIRST 48 INCHES OF THE HOLE FOR THE POLE FOUNDATION OR CONDUIT RUN WHERE UTILITIES ARE IN CLOSE PROXIMITY.
11. THE CONTRACTOR IS TO DE-WATER THE POLE FOUNDATION EXCAVATION IF THE ELEVATION OF WATER IS HIGHER THAN THE ELEVATION OF THE FOUNDATION BASE.

12. ALL MATERIALS, EQUIPMENT, AND OTHER CONTRACTOR SUPPLIED ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS, UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE ENGINEER.
13. #14 XHHW PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS. AT LEAST 2 FEET OF PULL WIRE SHALL BE ACCESSIBLE AT EACH CONDUIT TERMINATION AND SECURED IN THE PULL BOX OR PLACE OF TERMINATION.
14. ALL ELECTRICAL WIRING SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION.
15. GROUNDING: ALL COSTS FOR GROUNDING SHALL BE INCLUDED IN THE COST OF THE ITEM BEING GROUNDED. ALL GROUND ROD ASSEMBLIES FOR POLES, SERVICES, CABINETS, AND OTHER RELATED EQUIPMENT SHALL BE BONDED TOGETHER TO FORM AN INTEGRATED GROUNDING SYSTEM USING #6 AWG THHN COPPER WIRE. THE UPPER END OF ALL GROUND RODS SHALL BE 18 INCHES BELOW GROUND ELEVATION. MARK GROUND ROD LOCATION WITH PERMANENT MARKER SUCH AS AN EPOXIED STICKER LOCATED ON THE NEAREST CURB, AND PROVIDE AS-BUILT DRAWINGS WITH THE LOCATION OF GROUND RODS MARKED. GROUNDING CONDUCTOR MUST BE #6 OR LARGER INSULATED COPPER.  
  
CONNECTING DEVICES SHALL BE NON-CORROSIVE SPLIT BOLTS, CLAMPS, PRESSURE CONNECTORS, OR OTHER APPROVED MEANS TO ENSURE A POSITIVE CONNECTION.  
  
GROUND RESISTANCE TESTER, OR OTHER APPROVED MEANS SHALL BE USED TO ACQUIRE THE GROUND ROD RESISTANCE. THE ENGINEER, OR A REPRESENTATIVE OF THE ENGINEER FROM THE TRAFFIC OPERATIONS DIVISION STAFF SHALL BE PRESENT DURING THE TEST.
16. ELEVATION OF THE TOP OF THE MAST ARM FOUNDATION SHALL BE SIX INCHES ABOVE EXISTING GRADE, UNLESS LOCATED DIRECTLY AT BACK OF SIDEWALK. IF LOCATED AT BACK OF SIDEWALK, AND THE GRADING ALLOWS, THE FOUNDATION ELEVATION SHALL MATCH SIDEWALK GRADE. SEE TOP OF FOUNDATION ELEVATION ON THE "MAST ARM TABULATION" SHEET.
17. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR BORING.
18. CONTRACTOR SHALL SUPPLY ALL MATERIAL SUBMITTALS TO THE ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.
19. THE TYPE OF EQUIPMENT USED IN THE INSTALLATION OF MAST ARMS/ FOUNDATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:  
1) OVERHEAD LINES SHALL STAY IN PLACE BOTH VERTICALLY AND HORIZONTALLY; AND  
2) CONTRACTOR SHALL MEET ALL APPLICABLE OSHA REQUIREMENTS. ANY COST ASSOCIATED WITH THE TYPE OF EQUIPMENT REQUIRED FOR THIS INSTALLATION SHALL BE INCLUDED IN THE RELATED PAY ITEMS.
20. CONTRACTOR SHALL UTILIZE FDOT STANDARD PLANS INDEX 102-600, 102-104, 102-615, 102-616 AND 102-660 AS APPLICABLE DURING MAINTENANCE OF TRAFFIC OPERATIONS.
21. EXISTING SPEED LIMITS ARE AS FOLLOWS:  
40 MPH ON 26TH STREET NB AND 30 MPH ON 26TH STREET SB  
30 MPH ON 30TH AVENUE
22. UNDER SUPERVISION OF THE COUNTY, THE CONTRACTOR SHALL PERFORM AN INITIAL OPERATION TEST TO ENSURE THE CCTV ASSEMBLY HAS BEEN INSTALLED CORRECTLY AS A COMPLETE AND FUNCTIONALLY ACCEPTABLE INSTALLATION.
23. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW FOR ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED. THE CONTRACTOR SHALL FURNISH COPIES OF ALL DRAWINGS, SCHEDULES AND COMPLETE DESCRIPTIVE AND TECHNICAL DATA ON ALL ITEMS TO THE PROJECT MANAGER.
24. THE ACCEPTANCE OF ANY SUBMITTED DATA FOR MATERIALS, EQUIPMENT, APPARATUS, DEVICES, ARRANGEMENTS AND/OR LAYOUTS SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PLACING SAME AND PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITY AND INSTALLATIONS DETAILS TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT. SUCH ACCEPTANCE SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT ON THE SUBMITTAL DATA.
25. CONTRACTOR TO CONTACT TRAFFIC ENGINEERING DIVISION: MUKUNDA GOPALAKRISHNA (941-749-3500 EXT. 7813) TO OBTAIN IP ADDRESSES FOR FIELD DEVICES AND ETHERNET SWITCH CONFIGURATION INFORMATION.
26. WHEN A CONTRACTOR IS WORKING ON A SIGNAL IN AN INTERSECTION (INSTALLING CONDUIT IN THE STREET, REMOVING EXISTING SIGNAL EQUIPMENT, LOOPS, HOMERUNS OR TURNING ON OF NEW SIGNAL) WHERE A LANE IS CLOSED, THE ENGINEER MAY REQUIRE AN OFF DUTY LAW ENFORCEMENT OFFICER TO DIRECT TRAFFIC. THE HOURLY RATE FOR AN OFF DUTY LAW ENFORCEMENT OFFICER CAN BE OBTAINED FROM THE LOCAL LAW ENFORCEMENT OFFICE. THE COST OF THE OFFICER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN PAY ITEM 102-1-104.

27. CONTRACTOR SHALL 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.
28. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION FOR A LIST OF APPROVED ITS COMPONENTS FOR ALL ATMS MATERIAL PRIOR TO SUBMITTING SHOP DRAWINGS. THIS INCLUDES BUT NOT LIMITED TO ETHERNET SWITCH, FIBER PULL BOXES, SPLICE BOXES AND ROUTE MARKERS WITH CORRECT WORDING.

**CONDUIT NOTES**

1. ALL HDPE CONDUIT CONNECTIONS SHALL BE JOINED WITH A FUSION COUPLER OR FUSION SPLICE.
2. THE CONTRACTOR SHALL ADJUST THE CONDUIT RUNS, DEVICE POLES, BORES AND SERVICE POLE PLACEMENTS TO AVOID ANY UTILITY CONFLICTS IDENTIFIED BY THE LOCATES. ANY SIGNIFICANT CHANGE SHALL BE APPROVED BY THE ENGINEER.
3. THE CONDUITS TO BE INSTALLED ARE TO BE PLACED SO AS TO TOTALLY AVOID ANY CONFLICTS WITH EXISTING UTILITIES ALONG THE ROUTE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY INFORMATION REQUIRED TO PLAN THE WORK AHEAD FOR THE INSTALLATION OF THE REQUIRED CONDUITS WITHIN DESIGN OR SPECIFIED PARAMETERS, AND HIS TIME FRAME. THE CONTRACTOR SHALL ADJUST CONDUIT VERTICALLY OR HORIZONTALLY TO AVOID CONFLICT WITH UNDERGROUND UTILITIES. THE CONTRACTOR SHALL USE HAND EXCAVATION METHODS WHEN EXCAVATING NEAR EXISTING UTILITIES, NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK. EXTREME CAUTION SHALL BE USED BY THE CONTRACTOR WHEN EXCAVATING, INSTALLING, BACK FILLING AND COMPACTING AROUND EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL ABOVEGROUND AND UNDERGROUND CONFLICTS IN ADVANCE OF THE PLACEMENT OF ANY CONDUIT OR OTHER FACILITIES. THE CONTRACTOR SHALL FIELD MARK THE PROPOSED ALIGNMENT FOR REVIEW AND CONCURRENCE BY THE ENGINEER PRIOR TO TRENCHING AND/OR PLACEMENT. NO PULL BOXES SHALL BE LOCATED IN DRAINAGE SWALES, OR PAVED SHOULDERS.
5. WHEN TRENCHING FOR INSTALLATION, THE CONTRACTOR MAY RUN COMMUNICATIONS AND POWER SERVICE IN THE SAME TRENCH. THE POWER SERVICE SHALL HAVE SEPARATE PULL BOXES FOR ACCESS. THE CONTRACTOR SHALL NOT INSTALL COMMUNICATIONS AND POWER SERVICE IN THE SAME CONDUIT, PULL BOX OR MANHOLE.
6. THE CONTRACTOR SHALL PLACE ALL CONDUITS IN A MANNER THAT MINIMIZES DEFLECTION BOTH HORIZONTALLY AND VERTICALLY, THUS MINIMIZING STRESS ON CABLES DURING CABLE INSTALLATION. CONDUIT FOR FIBER OPTIC CABLE IN TRENCHES SHALL NOT DEFLECT MORE THAN 1-INCH PER FOOT VERTICALLY OR HORIZONTALLY. BENDS SHALL NOT BE PERMITTED EXCEPT AS SPECIFIED ON THE PLANS.
7. THE CONDUIT DETAILS GIVEN ARE MEANT TO BE SCHEMATIC IN NATURE. DUE TO ACTUAL FIELD CONDITIONS AND/OR NEEDS, DEVIATIONS MAY BE NECESSARY. DIMENSIONAL DISTANCES FOR CONDUIT LOCATIONS ARE PROVIDED TO ASSIST THE CONTRACTOR WITH CONDUIT PLACEMENT. THE CONTRACTOR SHALL TAKE THIS INTO ACCOUNT WHEN PLACING CONDUIT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING CONDUIT AROUND EXISTING UTILITIES AND OBSTRUCTIONS.
8. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF THE WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. DO NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/ NIGHT OPERATION.  
  
BRACKETS AND SPACERS WHICH ARE REQUIRED TO OFFSET THE RIGID METAL CONDUIT FROM THE MOUNTING, SHALL BE OF SIMILAR MATERIALS TO PREVENT CATHODIC REACTION.
9. ALL NEW CONDUIT SHALL BE PLACED AT A MINIMUM DEPTH OF 30" UNLESS PLACED IN AN AREA OF NEW FILL, IN WHICH CASE THE CONDUIT SHALL BE 48". DIRECTIONALLY BORED CONDUIT SHALL BE AT A MINIMUM DEPTH OF 48".

				SCALE	AS NOTED			DATE	11/2020	DESIGN ENGINEER	MICHAEL J. OATES	SHEET NO.
				DESIGNED BY	MJO			PROJECT NO.	6092460	FL. LICENSE NO.	49282	T-4
				DRAWN BY	SS							
				CHECKED BY	IR							
No.	REVISIONS			DATE	BY							



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232



MANATEE COUNTY  
PUBLIC WORKS

GENERAL NOTES

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PAY ITEM NOTES

1. 630-2-11 & 630-2-12:  
CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE NOTED IN THE PLANS. COST OF PULL WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

#14 XHHW PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS. AT LEAST 2 FEET OF PULL WIRE SHALL BE ACCESSIBLE.

ALL CONDUIT RUNS SHOWN ON THE PLANS ARE SCHEMATIC AND FIELD ADJUSTMENTS MAY BE NECESSARY. WITH THE EXCEPTION OF ELECTRICAL POWER SERVICE DUCTS, JACK & BORE SLEEVES, 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.

TWO SEPARATE UNDERGROUND CONDUIT RUNS LOCATED 180 DEGREES APART ARE REQUIRED FOR ALL MAST ARMS. THE SPARE CONDUIT SHALL BE CAPPED IN THE NEAREST PULL BOX. THERE SHALL BE A MINIMUM OF TWO RUNS OF 2" CONDUIT BETWEEN THE LAST LOW VOLTAGE PULL BOX LOCATED NEAR THE CONTROLLER CABINET & THE CONTROLLER CABINET, ITSELF.

2. 632-7-1:  
USE A MINIMUM OF 7 CONDUCTOR SIGNAL CABLES FOR SIGNAL HEADS AND PEDESTRIAN HEADS.

EACH PHASE/MOVEMENT SHALL BE WIRED FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT. THIS INCLUDES THE LEFT TURN MOVEMENT WHICH SHALL HAVE CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR SIGNAL CABLE WITH THE MANATEE COUNTY BEFORE ORDERING, AND WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE AND F.D.O.T. SPECIFICATIONS. THERE SHALL BE ONE NEUTRAL PER APPROACH. THIS PAY ITEM INCLUDES FURNISHING AND INSTALLING THE REQUIRED CABLING FOR THE PROPOSED PEDESTRIAN SIGNAL ASSEMBLIES. ALL PEDESTRIAN DETECTORS SHALL BE WIRED USING SEPARATE CABLE UTILIZING LOW VOLTAGE CONDUIT AND PULL BOXES.

3. 635-2-11:  
PULL BOXES SHALL BE TRAFFIC BEARING, ALL POLYMER CONSTRUCTION (NOT CONCRETE), PULL BOXES AND LIDS. (QUAZITE OR ANOTHER EQUIVALENT FDOT APPROVED MANUFACTURER). PULL BOXES ARE TO BE PLACED BEHIND CURB AND GUTTER. IF THERE IS NO CURB AND GUTTER, PULL BOXES SHALL BE PLACED A MINIMUM OF 7' FROM THE EDGE OF PAVEMENT.

STANDARD PULL BOX DIMENSIONS SHALL BE 17" x 30" x 12" AND THE LID SHALL BE STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" 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. ANY CHARGES BY FPL (FLORIDA POWER AND LIGHT) TO BE ON SITE TO DE-ENERGIZE ELECTRIC SERVICE LINES AND MONITOR WORK WHILE LINES ARE REROUTED ONTO THE NEW SERVICE POLE WILL BE INCLUDED UNDER THIS PAY ITEM.

IT SHALL ALSO INCLUDE THE COST OF INSTALLING SERVICE RISER ON FP&L SERVICE POLE. THE SERVICE RISER MUST HAVE A WEATHERHEAD TERMINATING AT A POINT 40" MINIMUM BELOW THE BOTTOM OF PRECO TRANSFORMER.

THIS PAY ITEM INCLUDES METER BASE AND SERVICE DISCONNECT. 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 60 AMP FOR CONTROLLER CABINET MAIN BREAKER. ONE 15 AMP BREAKER FOR INTERNALLY ILLUMINATED SIGNS MAY ALSO NEED STREET LIGHTING AS WELL AND BE APPROPRIATELY SIZED. ONE LIGHTING BREAKER, ONE SIGNAL BREAKER AND SURGE SUPPRESSION BREAKER (FUTURE USE) SHOULD BE INSTALLED.

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

6. 649-21-13:  
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.

THE CONTRACTOR SHALL 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 OR POLES.

7. 650-1-14, 650-1-16 & 650-1-19:  
USE SIGNAL HEAD SUPPORTING HANGER THAT IS CAPABLE OF ADJUSTING VERTICALLY A MINIMUM OF 1.5'.

ALL SIGNAL HEADS SHALL HAVE ALUMINUM LOUVERED BACKPLATES INSTALLED. BACKPLATES SHALL BE MANUFACTURED FOR THE SIGNAL HEADS USED & INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. THE BACKPLATE SHALL HAVE A 2" YELLOW REFLECTORIZED (TYPE III REFLECTIVITY) OUTER EDGE BORDER UNLESS SPECIFIED OTHERWISE IN THE PLANS.

THE EXTERNAL COLOR OF SIGNAL HOUSING SHALL BE BLACK. ALL TRAFFIC SIGNAL HEAD INDICATIONS SHALL BE 12" LED. ALL SIGNAL HEADS SHALL HAVE TUNNEL VISORS. THE COST FOR THE TUNNEL VISORS SHALL BE INCLUDED UNDER THIS PAY ITEM.

8. 653-1-11 & 653-1-12:  
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:  
SHALL INCLUDE WAVETRONIX SMARTSENSOR ADVANCE FOR ADVANCE DETECTION AND WAVETRONIX MATRIX SENSORS FOR STOP BAR DETECTION AS NOTED IN PLANS. THIS PAY ITEM WILL INCLUDE ALL NECESSARY MOUNTING BRACKETS AND CLAMPING EQUIPMENT. SHALL INCLUDE ANY COST ASSOCIATED WITH PHYSICAL INSTALLATION OF SENSOR AND ANY SOFTWARE NECESSARY TO PROGRAM THE SENSOR. THE SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

11. 660-6-121 & 660-6-122:  
THE CONTRACTOR SHALL FURNISH AND INSTALL BLUETOAD (BLUETOOTH UNIT) SPECTRA WITH RSU, POE UNIT AS SHOWN IN THE PLANS. (COORDINATE WITH THE VENDOR).

12. 665-1-12:  
SHALL INCLUDE ADDITIONAL COST OF LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF PEDESTRIAN SIGNAL SIGN FTP-68B-06. THIS SIGN SHALL BE MOUNTED ABOVE EACH PEDESTRIAN DETECTOR. ALL PEDESTRIAN PUSH BUTTONS SHALL BE A.D.A. COMPLIANT. STREET NAMES SHALL BE IN ACCORDANCE WITH THE STREET NAMES ON THE PLAN SHEETS.

13. 670-5-111:  
USE A NEMA TS2 TYPE 1 CONTROLLER, P-44 CABINET ASSEMBLY 7006-TS2/FL TYPE 6 ENCLOSURE AS SHOWN IN TABLE 7-1 OF THE 2003 NEMA STANDARD TS2. THE NAZTEC 980 ATC CONTROLLER SHALL COME EQUIPPED WITH 6 SERIAL PORTS AND ONE ETHERNET PORT. ALL CONTROLLER EQUIPMENT TO BE COMPATIBLE WITH MANATEE COUNTY'S EXISTING ATMS SYSTEM (NAZTEC'S ATMS.NOW). THE CABINET SHALL COME EQUIPPED WITH A ETHERNET SWITCH PAID UNDER A SEPARATE PAY ITEM NUMBER AND ALL THE NECESSARY SYSTEM COMPONENTS FOR INTEGRATION INTO AN ETHERNET-BASED FIBER OPTIC NETWORK. CONTACT MANATEE COUNTY PRIOR TO ORDERING CONTROLLER ASSEMBLY TO CONFIRM EQUIPMENT COMPATIBILITY.

TRAFFIC SIGNAL CONTROLLER BASE:  
THIS ITEM SHALL INCLUDE THE INSTALLATION OF A CONCRETE BASE FOR THE CONTROLLER ASSEMBLY. THE CONTROLLER ASSEMBLY FOUNDATION SHALL HAVE A MINIMUM OF FOUR (4) - 2" CONDUIT SPARES. TWO (2) OF THE SPARES SHALL BE TERMINATED IN THE NEAREST PULL BOX AND FITTED WITH A WEATHERPROOF CAP. THE OTHER TWO (2) SPARES SHALL BE TERMINATED IN THE SIGNAL CABLE AND LOW VOLTAGE PULL BOXES. THE CABINET BASE WHEN SECURED TO THE CONCRETE SLAB WITH CONTROLLER CABINET ATTACHED MUST WITHSTAND A MINIMUM WIND LOAD OF 130 MPH OR A 850 LB FORCE APPLIED AT 49" ABOVE THE BOTTOM OF THE BASE WITHOUT CAUSING THE BASE OR CABINET TO COME OUT OF THEIR ANCHORED POSITION OR CAUSE ANY PERMANENT DEFORMATION. ALL COSTS OF LABOR, CONCRETE, AND OTHER MATERIALS FOR THE CONTROLLER ASSEMBLY, TECHNICIAN PADS, STEPS AS REQUIRED, ARE INCLUDED IN THIS ITEM.

INSTALL A PVC SLEEVE TO PREVENT THE GROUND ROD FROM DIRECT EMBEDMENT IN THE SLAB. EXTEND CONDUITS FOR FUTURE USE AT LEAST 18-INCHES FROM THE EDGE OF THE SLAB. TERMINATE UNDERGROUND WITH A COUPLING AND CAP AND SEAL SO THAT THE SEAL CAN BE REMOVED WITHOUT DAMAGING THE COUPLING. ANCHOR THE CONTROLLER CABINET TO THE BASE USING FOUR STAINLESS STEEL 1/2" -13 NC BOLTS.

THE CONTROLLER BASE SHALL BE AT LEAST 2' HIGH OR THE SAME ELEVATION AS THE CROWN OF THE ROADWAY, WHICHEVER IS GREATER. THE MAXIMUM DISTANCE FROM THE TECHNICIAN PAD OR STEP TO THE FOUNDATION TOP IS 24". THE CABINET DOORS SHALL OPEN TOWARDS OR PARALLEL TO THE RIGHT-OF-WAY LINE AND AWAY FROM TRAFFIC.

- TRAFFIC CONTROLLER: NAZTEC TS2 TYPE 1 980 ATC.  
- TRAFFIC CONTROLLER CABINET: NAZTEC TS2 TYPE 1, SIZE: TYPE - VI WITH FRONT AND BACK DOOR ACCESS.

14. 682-1-113:  
THE CCTV CAMERA UNIT SHALL BE BOSCH ITS 7000 STARLITE SERIES - 1080P 30x40.

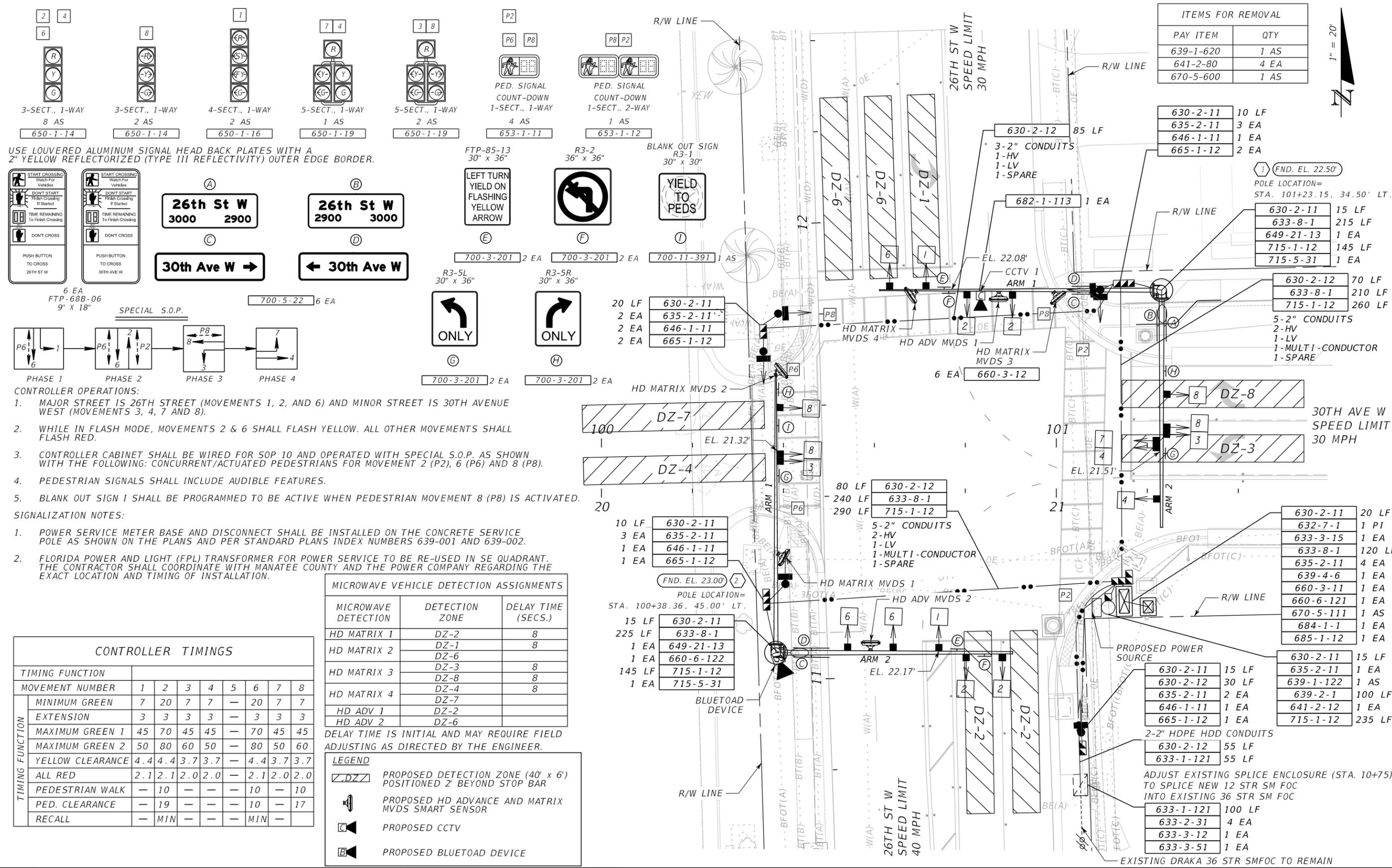
15. 684-1-1:  
THE ETHERNET SWITCH SHALL BE A RUGGEDCOM SWITCH MODEL NUMBER RSG920P, PART NUMBER 6GK6092-OPS23-0BA0-Z A05+B05+C02+D02.

16. 685-1-12:  
SHALL INCLUDE AN UNINTERRUPTED POWER SUPPLY UNIT (UPS) MODEL NO. ALPHA FXM 1100 EQUIPPED WITH AN ETHERNET PORT. ALL UNINTERRUPTIBLE POWER SUPPLIES SHALL SUPPORT SNMP (PROTOCOL) FOR REMOTE MONITORING AND MANAGEMENT. THE UPS SHALL BE SIZED TO ACCOMMODATE THE MAXIMUM CONNECTED LOAD. THE BATTERY BANK SHALL BE SIZED TO PROVIDE A MINIMUM 8 HOURS RUN TIME UNDER FULL LOAD.

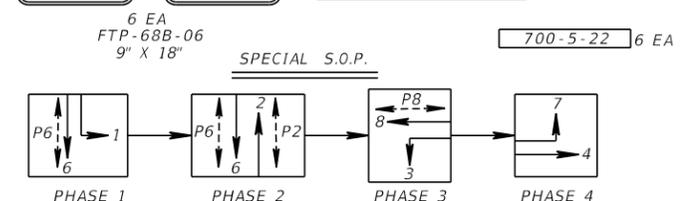
17. 700-5-22:  
ALL INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE EDGE LIT LED TYPE AND SHALL BE LISTED IN THE FDOT APPROVED PRODUCT LIST. THE COST OF THIS ITEM SHALL INCLUDE PROPERLY DESIGNED AND SIZED ADJUSTABLE HANGERS, BRACKETS, CLAMPS, AND ALL MISCELLANEOUS HARDWARE NECESSARY TO RIGID MOUNT THE SIGNS AS SHOWN IN THE PLANS. THE SIGNS SHALL BE POWERED USING IMSA 50-2 CABLE. THIS ITEM SHALL ALSO INCLUDE INSTALLATION OF THE PHOTOCCELL ON THE SERVICE POLE OR INSIDE SIGNAL CABINET.

INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL HAVE 120 VOLT LED BULBS. BULB TUBES LESS THAN 8 FEET SHALL HAVE 28.5 WATTS POWER CONSUMPTION AT 1900 LUMENS AND TUBES 8 FOOT OR GREATER SHALL HAVE 38 WATTS POWER CONSUMPTION AT 2600 LUMENS.

				SCALE	AS NOTED			DATE	11/2020	DESIGN ENGINEER	MICHAEL J. OATES	SHEET NO.	
				DESIGNED BY	MJO			PROJECT NO.	6092460	FL. LICENSE NO.	49282		
				DRAWN BY	SS	HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232							
				CHECKED BY	IR								
No.	REVISIONS			DATE	BY	MANATEE COUNTY PUBLIC WORKS							
											<b>PAY ITEM NOTES</b>		T-5



USE LOUVERED ALUMINUM SIGNAL HEAD BACK PLATES WITH A 2" YELLOW REFLECTORIZED (TYPE III REFLECTIVITY) OUTER EDGE BORDER.



- CONTROLLER OPERATIONS:**
- MAJOR STREET IS 26TH STREET (MOVEMENTS 1, 2, AND 6) AND MINOR STREET IS 30TH AVENUE WEST (MOVEMENTS 3, 4, 7 AND 8).
  - WHILE IN FLASH MODE, MOVEMENTS 2 & 6 SHALL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL FLASH RED.
  - CONTROLLER CABINET SHALL BE WIRED FOR SOP 10 AND OPERATED WITH SPECIAL S.O.P. AS SHOWN WITH THE FOLLOWING: CONCURRENT/ACTUATED PEDESTRIANS FOR MOVEMENT 2 (P2), 6 (P6) AND 8 (P8).
  - PEDESTRIAN SIGNALS SHALL INCLUDE AUDIBLE FEATURES.
  - BLANK OUT SIGN I SHALL BE PROGRAMMED TO BE ACTIVE WHEN PEDESTRIAN MOVEMENT 8 (P8) IS ACTIVATED.

- SIGNALIZATION NOTES:**
- POWER SERVICE METER BASE AND DISCONNECT SHALL BE INSTALLED ON THE CONCRETE SERVICE POLE AS SHOWN ON THE PLANS AND PER STANDARD PLANS INDEX NUMBERS 639-001 AND 639-002.
  - FLORIDA POWER AND LIGHT (FPL) TRANSFORMER FOR POWER SERVICE TO BE RE-USED IN SE QUADRANT. THE CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY AND THE POWER COMPANY REGARDING THE EXACT LOCATION AND TIMING OF INSTALLATION.

TIMING FUNCTION	1	2	3	4	5	6	7	8
MINIMUM GREEN	7	20	7	7	-	20	7	7
EXTENSION	3	3	3	3	-	3	3	3
MAXIMUM GREEN 1	45	70	45	45	-	70	45	45
MAXIMUM GREEN 2	50	80	60	50	-	80	50	60
YELLOW CLEARANCE	4.4	4.4	3.7	3.7	-	4.4	3.7	3.7
ALL RED	2.1	2.1	2.0	2.0	-	2.1	2.0	2.0
PEDESTRIAN WALK	-	10	-	-	-	10	-	10
PED. CLEARANCE	-	19	-	-	-	10	-	17
RECALL	-	MIN	-	-	-	MIN	-	-

MICROWAVE DETECTION	DETECTION ZONE	DELAY TIME (SECS.)
HD MATRIX 1	DZ-2	8
HD MATRIX 2	DZ-1	8
HD MATRIX 3	DZ-3	8
HD MATRIX 4	DZ-8	8
HD ADV 1	DZ-7	8
HD ADV 2	DZ-2	8

- DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER.
- LEGEND**
- PROPOSED DETECTION ZONE (40' x 6') POSITIONED 2' BEYOND STOP BAR
  - PROPOSED HD ADVANCE AND MATRIX MVDS SMART SENSOR
  - PROPOSED CCTV
  - PROPOSED BLUETOAD DEVICE

PAY ITEM	QTY
639-1-620	1 AS
641-2-80	4 EA
670-5-600	1 AS

630-2-11	10 LF
635-2-11	3 EA
646-1-11	1 EA
665-1-12	2 EA

630-2-11	15 LF
633-8-1	215 LF
649-21-13	1 EA
715-1-12	145 LF
715-5-31	1 EA

630-2-12	70 LF
633-8-1	210 LF
715-1-12	260 LF

5-2" CONDUITS	
2-HV	
1-LV	
1-MULTI-CONDUCTOR	
1-SPARE	

630-2-11	20 LF
632-7-1	1 PI
633-3-15	1 EA
633-8-1	120 LF
635-2-11	4 EA
639-4-6	1 EA
660-3-11	1 EA
660-6-121	1 EA
670-5-111	1 AS
684-1-1	1 EA
685-1-12	1 EA

630-2-11	15 LF
630-2-12	30 LF
635-2-11	2 EA
646-1-11	1 EA
665-1-12	1 EA

2-2" HDPE HDD CONDUITS	
630-2-12	55 LF
633-1-121	55 LF

ADJUST EXISTING SPLICE ENCLOSURE (STA. 10+75) TO SPLICE NEW 12 STR SM FOC INTO EXISTING 36 STR SM FOC

633-1-121	100 LF
633-2-31	4 EA
633-3-12	1 EA
633-3-51	1 EA

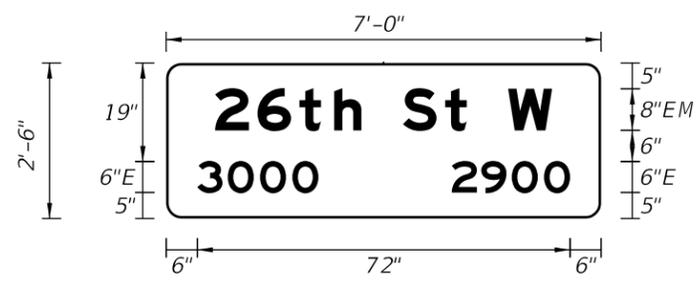
EXISTING DRAKA 36 STR SMFOC TO REMAIN

SCALE	AS NOTED	DATE	11/2020	DESIGN ENGINEER	MICHAEL J. OATES	SHEET NO.	T-6
DESIGNED BY	MJO	PROJECT NO.	6092460	FL. LICENSE NO.	49282		
DRAWN BY	SS						
CHECKED BY	IR						

11:33:30 AM 12/24/2020 PW\

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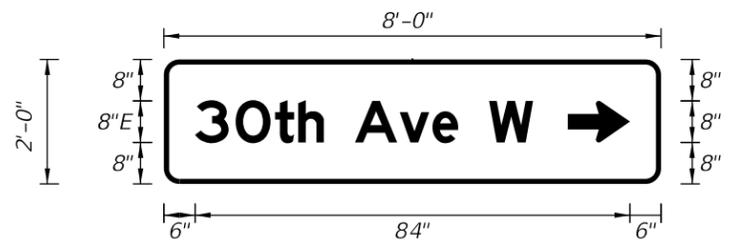
SIGN NAME	SIGN A	QTY	1	SIGN NUMBER		STATION(S)	
PANEL	BORDER					none	
WIDTH	7'-0"	WIDTH	0.5"				
HEIGHT	2'-6"	RADII	3"				
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)	ANGLE	X	Y	WID	HT		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	2	6	t	h	S	t	W	L											
SPACE	9.5	8.2	8.1	6.7	5.3	8	8.2	4.2	8	8.5	9.5	65							
COPY	3	0	0	0	L														
SPACE	6	5.9	6.2	6.2	5	54.6	23.4												
COPY	2	9	0	0	L														
SPACE	55.1	5.7	5.9	6.2	5	6	22.9												
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

SIGN NAME	SIGN C	QTY	2	SIGN NUMBER		STATION(S)	
PANEL	BORDER					none	
WIDTH	8'-0"	WIDTH	1"				
HEIGHT	2'-0"	RADII	3"				
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)	ANGLE	X	Y	WID	HT		
AR_Type D	270	78	8	8	12		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	3	0	t	h	A	v	e	W	L										
SPACE	6	7.8	7.6	4.5	5	6	8.6	6.3	5	6	8.5	24.7	65.3						
COPY																			
SPACE																			
COPY																			
SPACE																			
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COPY																			
SPACE																			

SCALE	AS NOTED		
DESIGNED BY	MJO		
DRAWN BY	SS		
CHECKED BY	IR		
No.	REVISIONS	DATE	BY

HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232

DATE	11/2020
PROJECT NO.	6092460

**Manatee County**  
FLORIDA  
**MANATEE COUNTY PUBLIC WORKS**

DESIGN ENGINEER	MICHAEL J. OATES
FL. LICENSE NO.	49282

**GUIDE SIGN WORKSHEET**

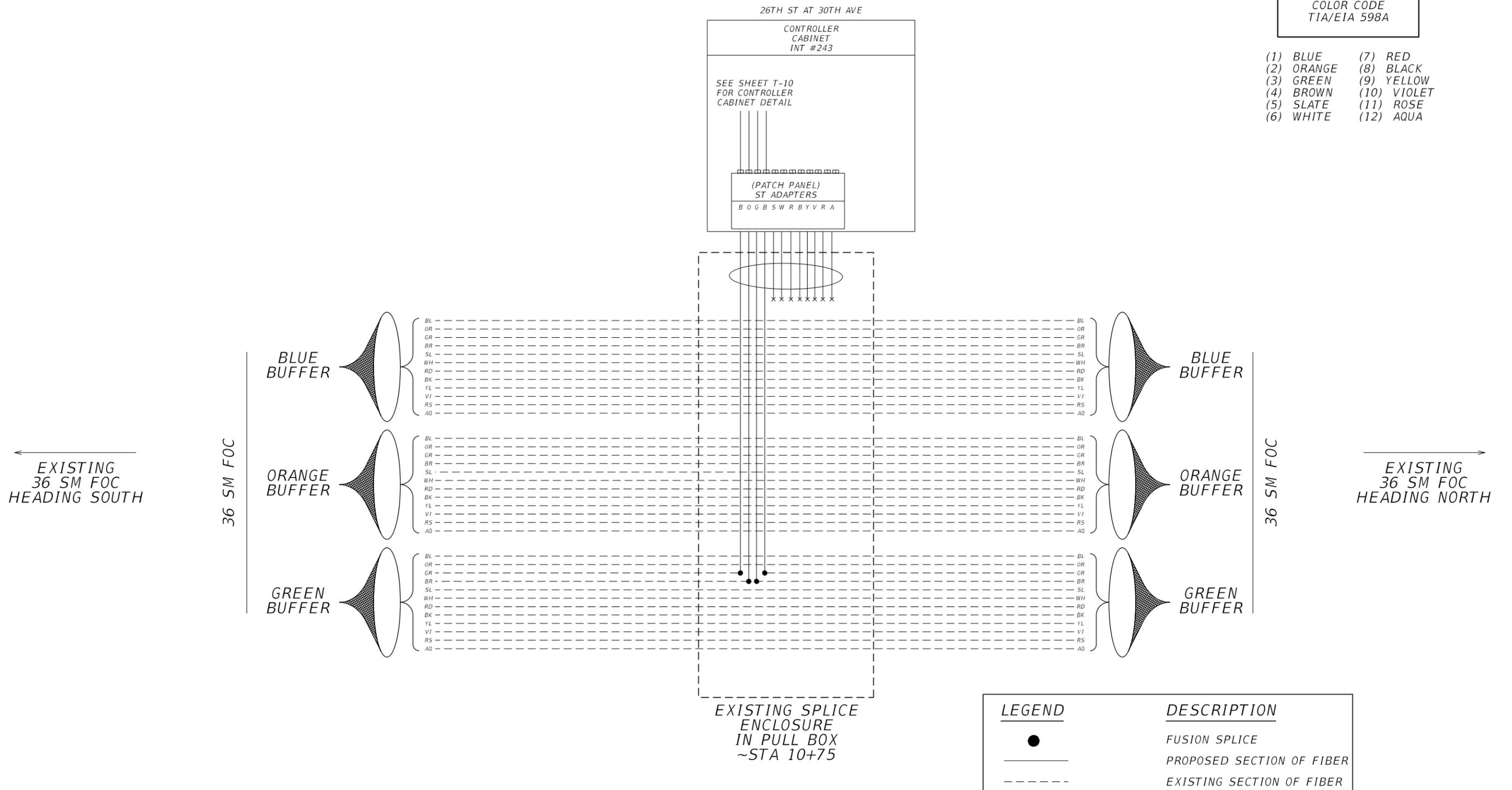
SHEET NO.	T-7
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- NOTES:
1. UNUSED FIBERS SHALL BE LEFT COILED, CAPPED, AND STORED IN SPLICE TRAY.
  2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN SPLICE TRAY.

COLOR CODE  
TIA/EIA 598A

- |            |             |
|------------|-------------|
| (1) BLUE   | (7) RED     |
| (2) ORANGE | (8) BLACK   |
| (3) GREEN  | (9) YELLOW  |
| (4) BROWN  | (10) VIOLET |
| (5) SLATE  | (11) ROSE   |
| (6) WHITE  | (12) AQUA   |



SCALE	AS NOTED		
DESIGNED BY	MJO		
DRAWN BY	SS		
CHECKED BY	IR		
No.	REVISIONS	DATE	BY

**HDR**  
HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232

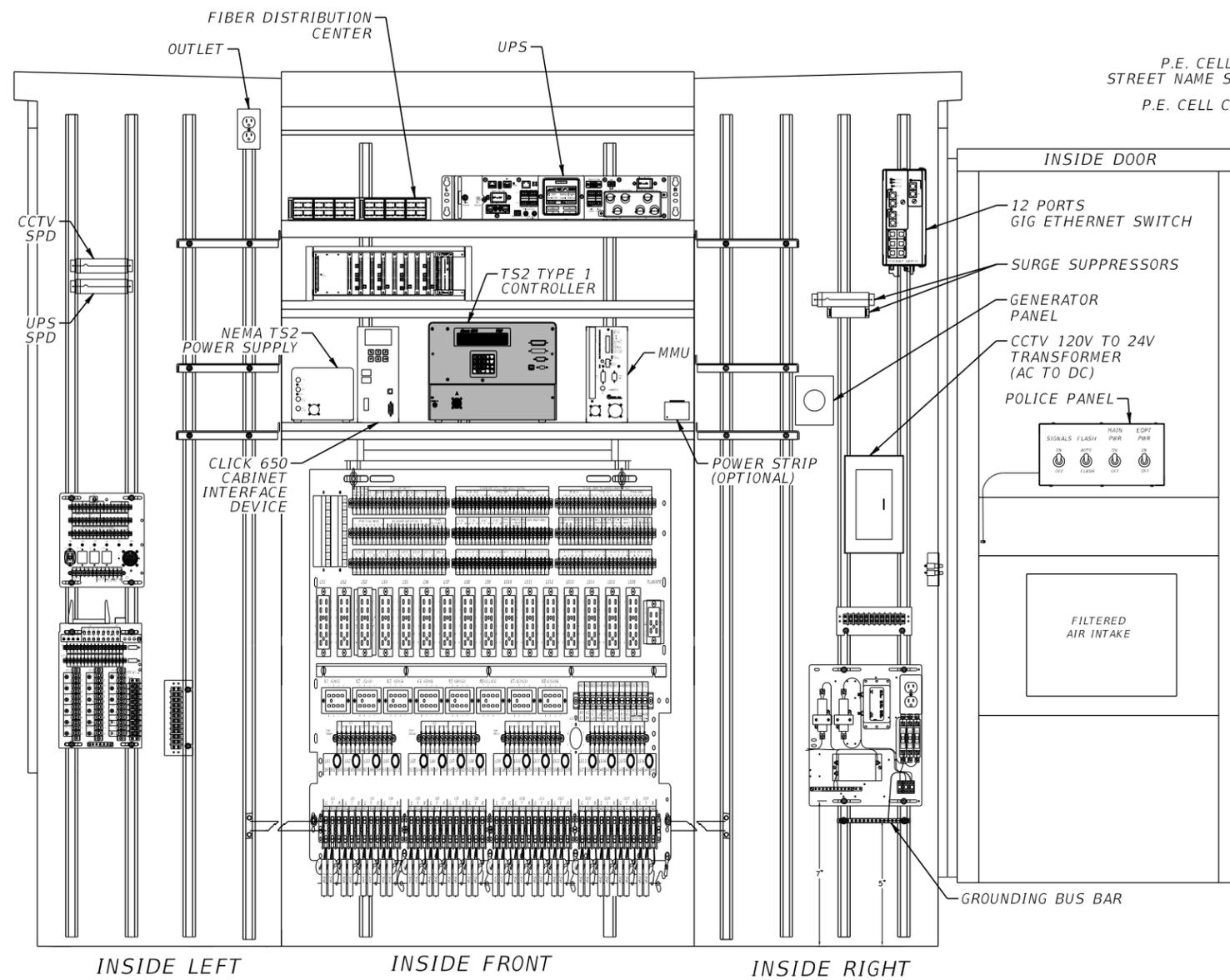
DATE  
11/2020  
PROJECT NO.  
6092460  
1:46:00 PM

**Manatee County**  
MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER  
MICHAEL J. OATES  
FL. LICENSE NO.  
49282  
PW:\

**SPLICING DIAGRAM**  
SHEET NO.  
T-9

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TWO DOOR TRAFFICWARE TYPE VI CABINET

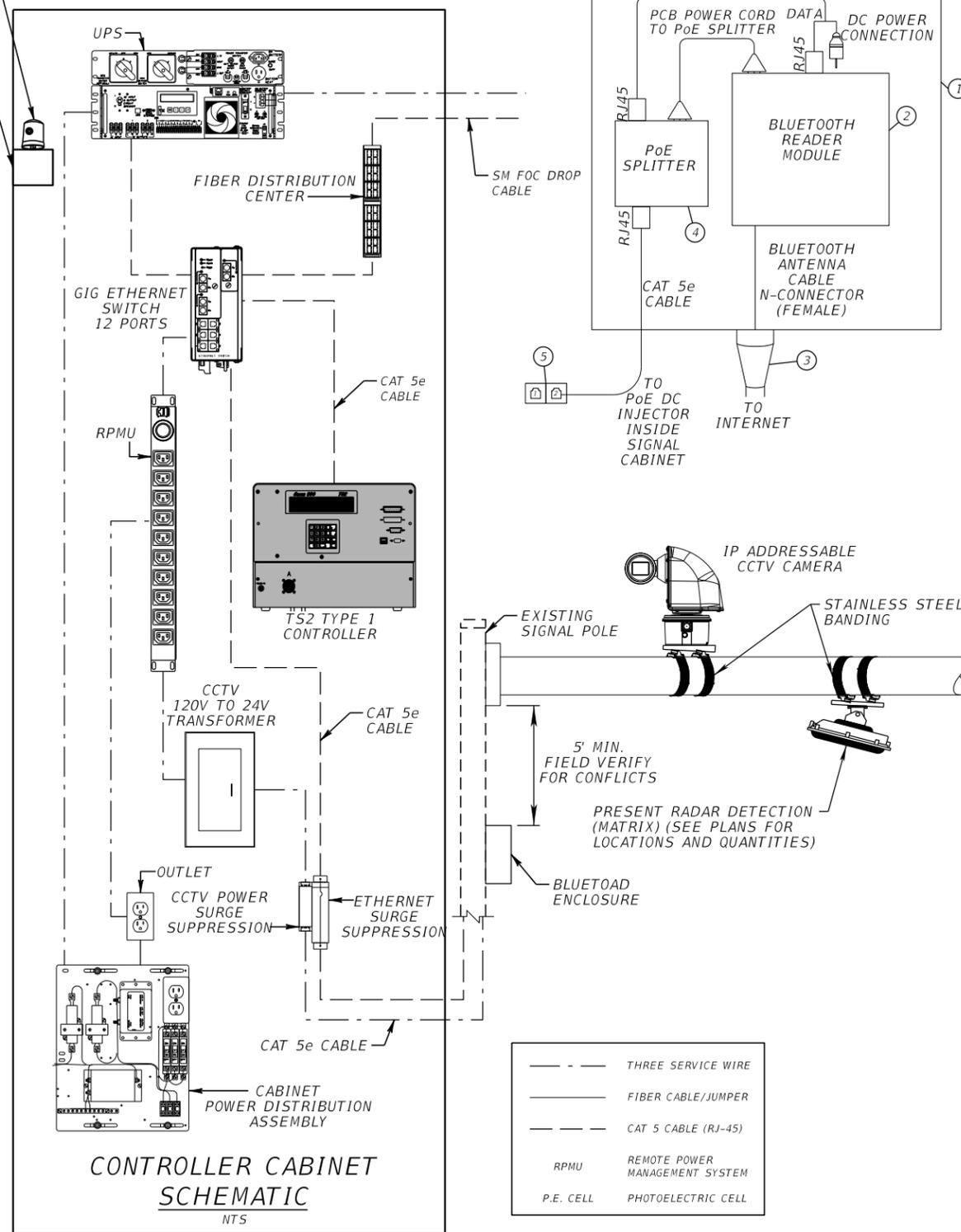
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ETHERNET BASED BLUETOAD SYSTEM - COMPONENTS DETAIL

ITEM ID	DESCRIPTION	NOTE
1	FIBERGLASS ENCLOSURE	SEE NOTE 1
2	BLUETOOTH READER MODULE	ETHERNET BASED
3	BLUETOOTH ANTENNA	OMNI DIRECTIONAL
4	POWER OVER ETHERNET SPLITTER	
5	POWER OVER ETHERNET DC INJECTOR	POWERED BY AC IN TRAFFIC CONTROL CABINET

NOTE 1: FIBERGLASS NEMA 3R RATED ENCLOSURE WITH RAISED SNAP LATCH HINGED COVER 10" X 8" X 5.75". ENCLOSURE SHALL BE ATTACHED TO A POLE USING TWO GALVANNEALED STEEL AM BRACKETS.

CCTV AND ETHERNET-BASED BLUETOOTH CONNECTION DIAGRAM



CONTROLLER CABINET SCHEMATIC

NTS

No.	REVISIONS	DATE	BY

SCALE AS NOTED  
 DESIGNED BY MJO  
 DRAWN BY SS  
 CHECKED BY IR

HDR Engineering, Inc.  
 2601 Cattlemen Road  
 Suite 400  
 Sarasota, FL 34232

DATE	PROJECT NO.
11/2020	6092460

MANATEE COUNTY PUBLIC WORKS

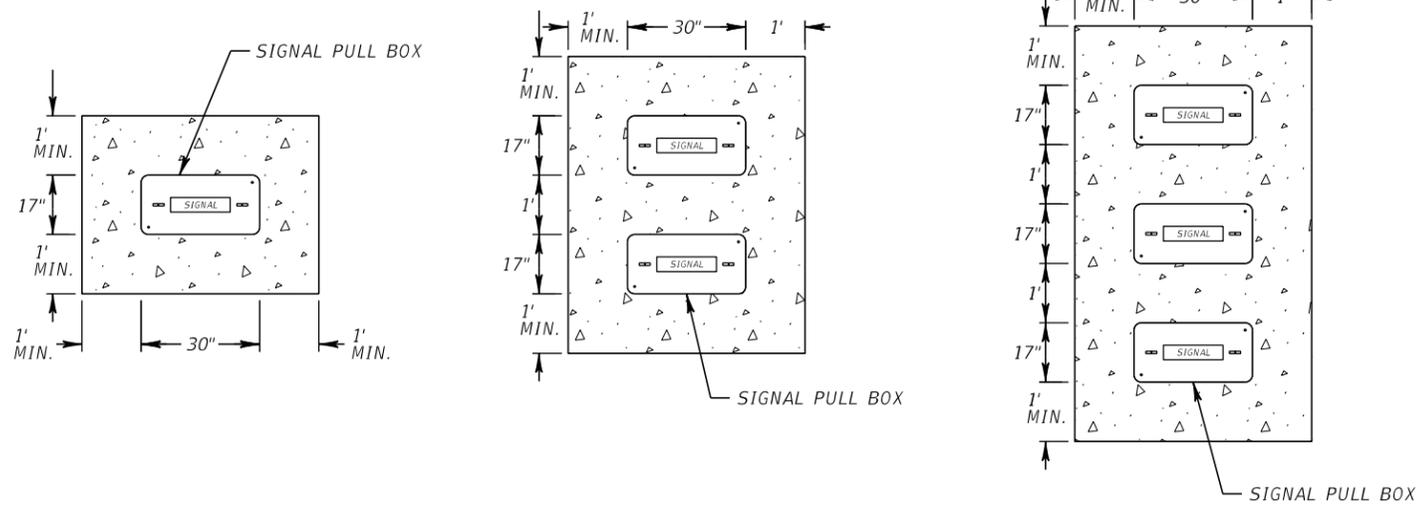
DESIGN ENGINEER	FL. LICENSE NO.
MICHAEL J. OATES	49282

CABINET, CCTV, MVDS AND BLUETOOTH DETAILS

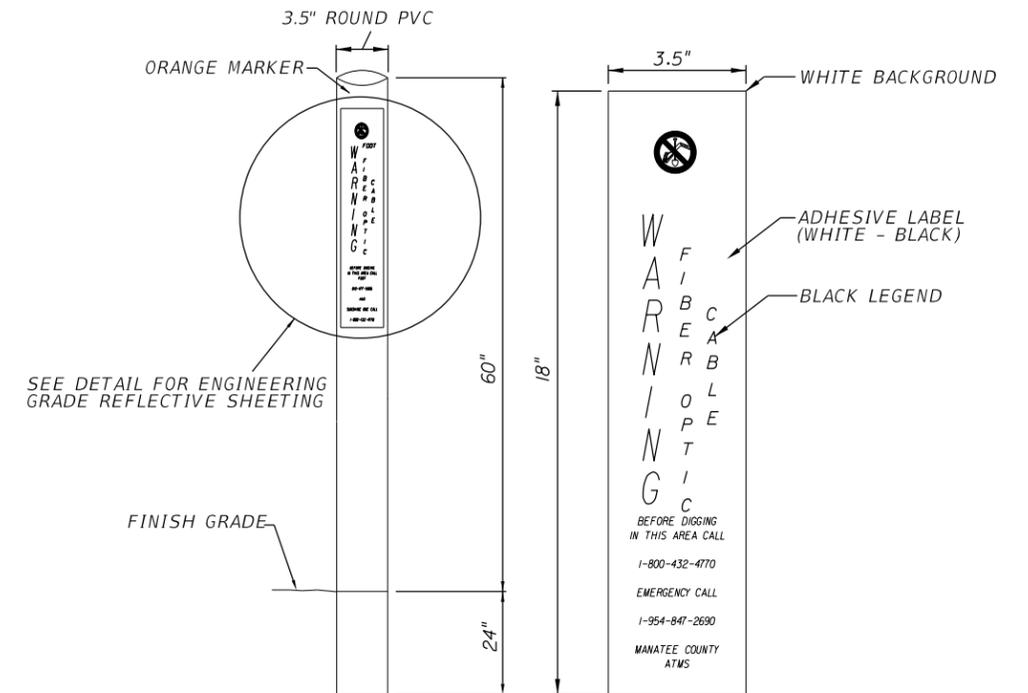
SHEET NO.
T-10

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CONCRETE APRON DETAILS



FIBER OPTIC CABLE ROUTE MARKER



FRONT VIEW  
NTS

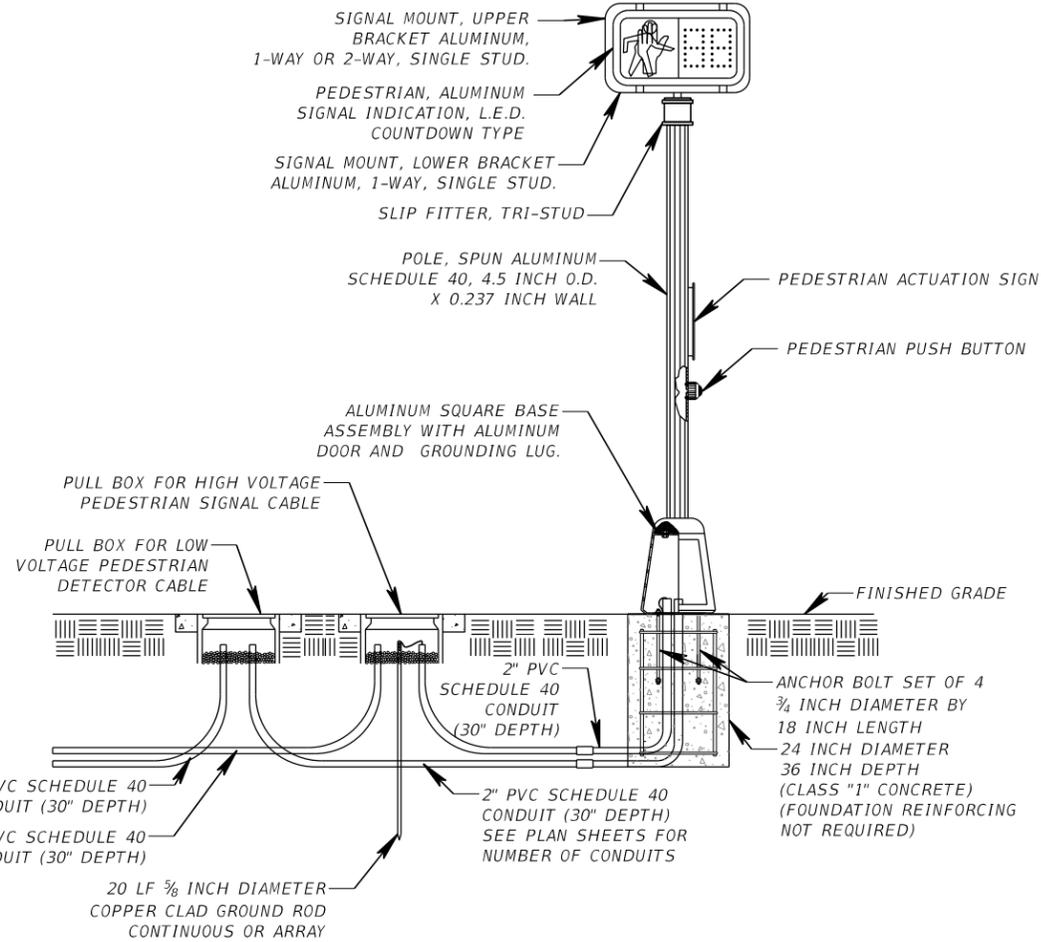
NOTES:

1. CONCRETE REINFORCEMENT AND INSTALLATION REQUIREMENTS TO BE PER STANDARD PLANS INDEX 715-001.
2. WHEN MULTIPLE CONFIGURATIONS OF PULL BOXES ARE ADJACENT TO ONE ANOTHER, THEY SHALL BE FORMED TOGETHER WITH AN EXPANSION JOINT BETWEEN THE APRONS UTILIZED TO AVOID CRACKING.
3. THE ORIENTATION OF CONCRETE APRONS WITH MULTIPLE PULL & JUNCTION BOXES SHALL BE DETERMINED IN THE FIELD.

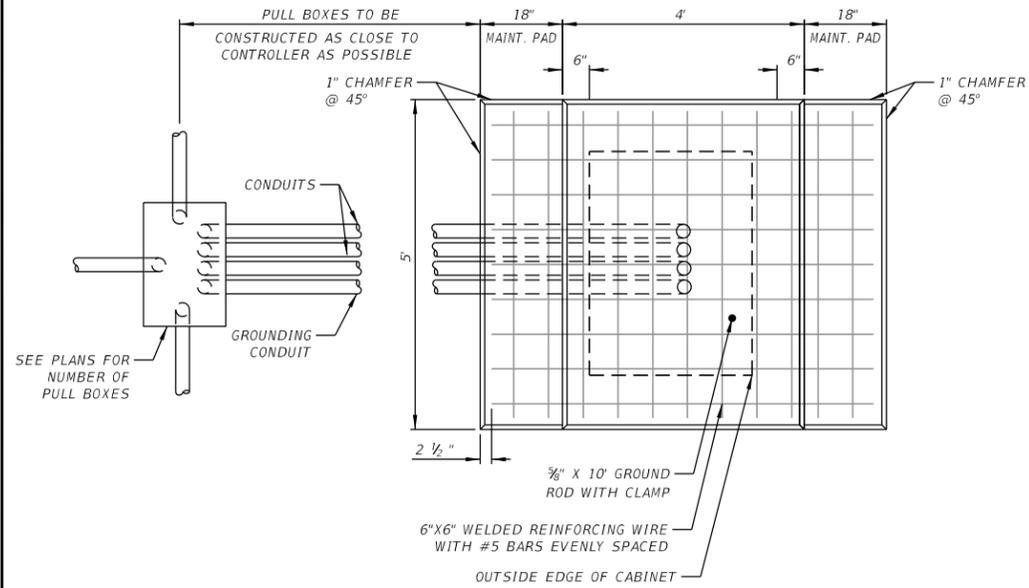
NOTES:

1. FOR TRENCH LINES WITH BOTH FIBER OPTIC CABLE AND POWER SERVICE WIRE, INSTALL POWER MARKER ALTERNATING WITH FIBER MARKER.
2. INSTALL FIBER OPTIC CABLE MARKER AT EVERY FIBER PULL BOX AND EVERY CHANGE IN DIRECTION NOT TO EXCEED 500 FEET.
3. TUBULAR MARKER TO BE PLACED OVER A V-CHANNEL METALLIC FENCE POST.
4. NO SEPARATE PAYMENT FOR ROUTE MARKERS. SHALL BE INCIDENTAL TO CONDUIT INSTALLATION.
5. A POLYDOME TOP SHALL BE INSTALLED ON EACH MARKER ORANGE, FOR FIBER AND RED FOR POWER.
6. ALL ROUTE MARKERS SHALL MEET SECTION 630 OF STANDARD SPECIFICATIONS.

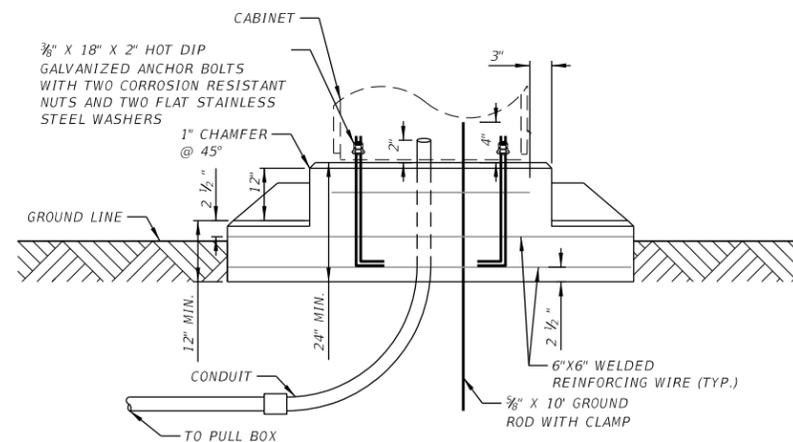
				SCALE	AS NOTED			DATE	11/2020	DESIGN ENGINEER	MICHAEL J. OATES	SHEET NO.
				DESIGNED BY	MJO	HDR		PROJECT NO.	6092460	FL. LICENSE NO.	49282	
				DRAWN BY	SS	MANATEE COUNTY PUBLIC WORKS						T-II
				CHECKED BY	IR	MANATEE COUNTY FLORIDA						
No.	REVISIONS			DATE	BY							



TYPICAL PEDESTRIAN SIGNAL DETAIL  
NTS



TOP VIEW



SIDE VIEW

CONCRETE PAD DETAIL FOR TWO DOOR CONTROLLER CABINET  
NTS

NOTE:  
THE CABINET FOUNDATION WILL HAVE 13-2" PVC CONDUITS (4-HIGH VOLTAGE, 4-LOW VOLTAGE, 3-SPARE, 2-COMM) ALONG WITH 2-1" PVC CONDUITS (1-GROUND, 1-POWER). THE CONTRACTOR SHALL CONTACT MANATEE COUNTY FOR THE PROPER LAYOUT OF THE CONDUITS IN THE CONTROLLER FOUNDATION PRIOR TO POURING THE FOUNDATION.

TYPICAL CONTROLLER CABINET INSTALLATION

NTS

MATERIAL SPECIFICATIONS

- A. MATERIALS REQUIRED FOR THE CONTROLLER CABINET FOUNDATION, AND ALL PERTINENT EQUIPMENT AND ASSEMBLY IS INCLUDED IN THE PRICE BID FOR THE CONTROLLER.
- B. THE CONTROLLER CABINET FOUNDATION SHALL BE CLASS "1" CONCRETE & 6" X 6" WELDED REINFORCING WIRE WITH 3 #5 BARS EVENLY SPACED.
- C. A MINIMUM OF 4 EXPANSION BOLTS ARE REQUIRED. STAINLESS STEEL KWIK BOLT WITH A MIN. EMBEDMENT OF 18", SHALL BE USED TO MOUNT THE CONTROLLER CABINET TO THE CONCRETE PAD.

SCALE	AS NOTED		
DESIGNED BY	MJO		
DRAWN BY	SS		
CHECKED BY	IR		
No.	REVISIONS	DATE	BY



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232

DATE

11/2020

PROJECT NO.

6092460

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MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER

MICHAEL J. OATES

FL. LICENSE NO.

49282

PW:\

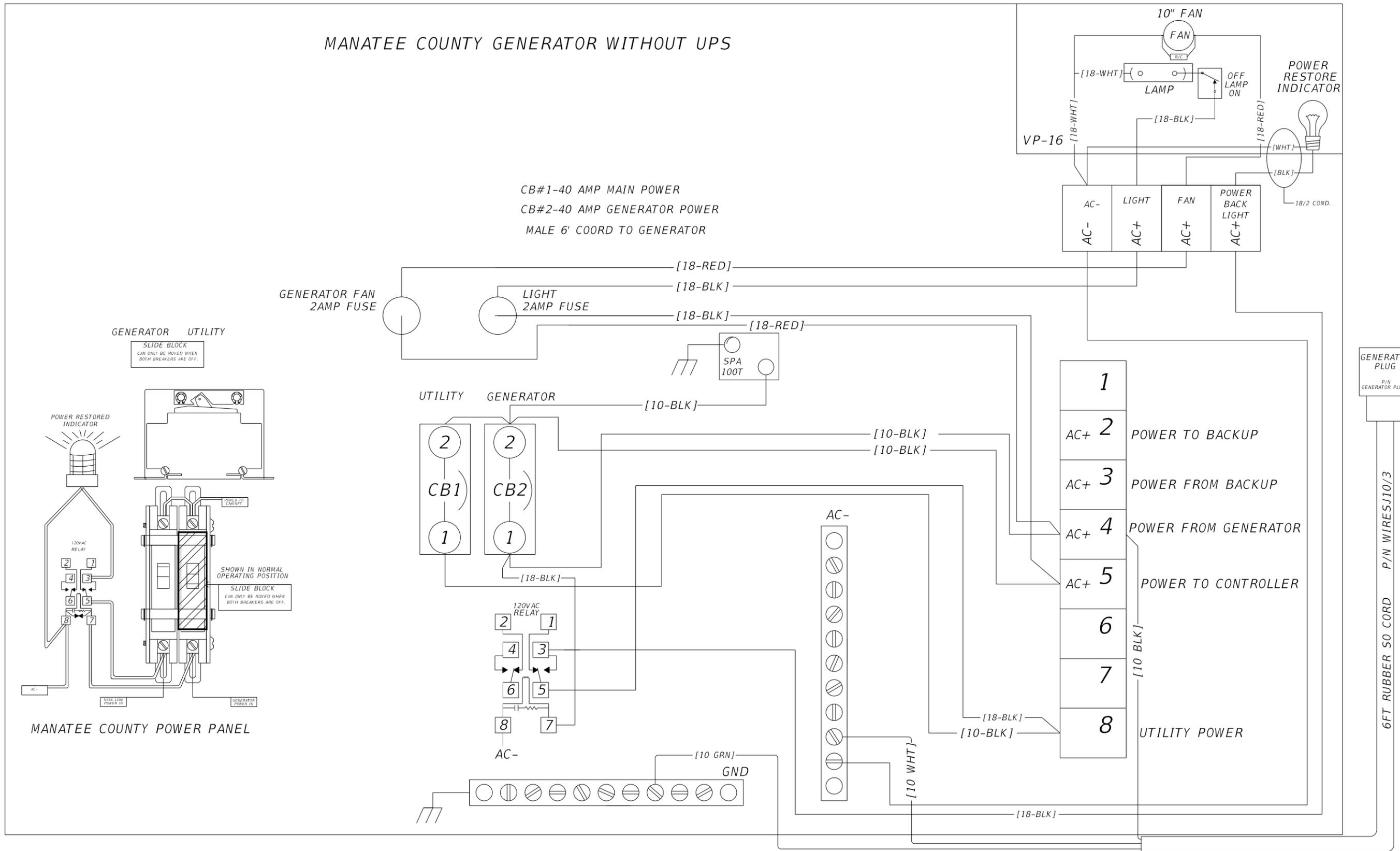
PEDESTRIAN SIGNAL AND  
CABINET BASE DETAILS

SHEET NO.

T-12

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# MANATEE COUNTY GENERATOR WITHOUT UPS



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DESIGNED BY	MJO		
DRAWN BY	SS		
CHECKED BY	IR		
No.	REVISIONS	DATE	BY

**HDR**  
 HDR Engineering, Inc.  
 2601 Cattlemen Road  
 Suite 400  
 Sarasota, FL 34232

DATE	11/2020
PROJECT NO.	6092460
	1:46:14 PM

**MANATEE COUNTY PUBLIC WORKS**

DESIGN ENGINEER	MICHAEL J. OATES
FL. LICENSE NO.	49282
	PW:\

**GENERATOR CABINET WIRING DIAGRAM**

SHEET NO.	T-13
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STANDARD MAST ARM ASSEMBLIES DATA TABLE											
POLE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM (5)		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
POLE 1	A60/D/H-A50/D-P4/D/L	A60/D/H		A50/D		90	90	P4/D/L		20.5	DS/20/5.0
POLE 2	A60/D-A60/D/H-P5/D/L	A60/D		A60/D/H	25.5	270	270	P5/D/L		20	DS/18/5.0

NOTES:

1. 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.
2. 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.
3. 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.
4. Work with Index 649-030 and 649-031.
5. Due to the proposed loading for Pole 2 - Arm 2 the A60/D/H arm is specified to be used for meeting design requirements with SAA = 25.5 ft. resulting in 50 ft. arm length.

FOUNDATION NOTE:

Assumptions and Values used in design:

FOUNDATION DESIGN PARAMETERS					
POLE ID NUMBERS	SOIL LAYER THICKNESS (ft.)	SOIL FRICTION ANGLE (deg)	SOIL WEIGHT (pcf) (1)	SOIL TYPE (2)	WEIGHTED AVERAGE N-VALUE (3)
POLE 1	30	30	48	SAND	11
POLE 2	30	30	48	SAND	13

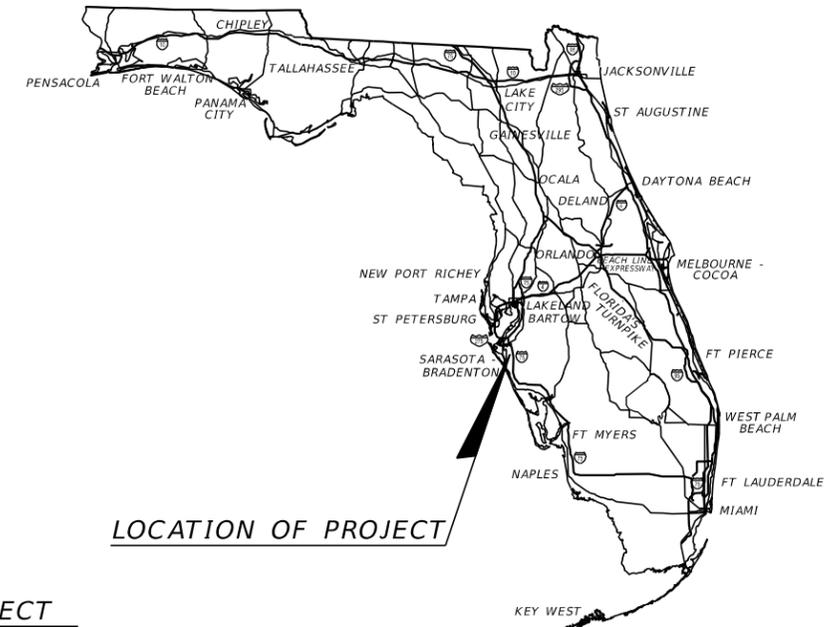
- (1) Design water table is 0 ft. below surface
- (2) Soil type is sand (cohesionless) or clay (cohesive)
- (3) This value is determined over the length of the drilled shaft 'DA'

No.	REVISIONS	DATE	BY	CAS	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE 11/2020	 <b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER CHESTER A. SMITH III	<b>MAST ARM DATA TABLE</b>	SHEET NO.
						PROJECT NO. 6092460		FL. LICENSE NO. 70756		T-14

**MANATEE COUNTY  
PUBLIC WORKS DEPARTMENT**

**CONTRACT PLANS**

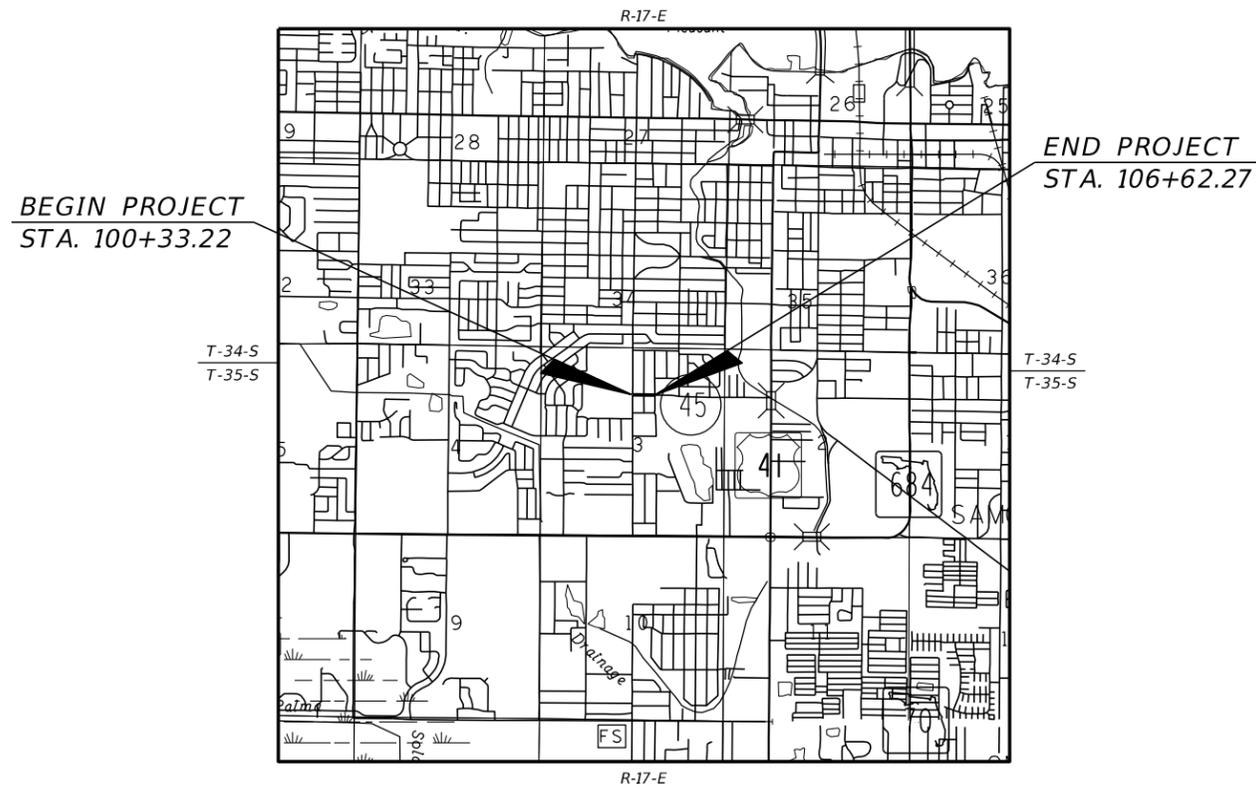
**MANATEE COUNTY  
PROJECT NUMBER 6092460  
26TH STREET WEST AT 30TH AVENUE WEST  
INTERSECTION IMPROVEMENTS  
UTILITY RELOCATION PLANS**



LOCATION OF PROJECT

**INDEX OF UTILITY RELOCATION PLANS**

SHEET NO.	SHEET DESCRIPTION
U-1	KEY SHEET
U-2	SIGNATURE SHEET
U-3	SUMMARY OF PAY ITEMS
U-4	GENERAL NOTES
U-5	UTILITY PLANS
U-6	UTILITY PROFILES
U-7 - U-12	UTILITY DETAILS



**UTILITY RELOCATION PLANS  
ENGINEER OF RECORD:**

HEATHER L. MANGANIELLO, P.E.  
P.E. NO.: 68385  
HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232  
VENDOR NO. 47-0680568  
CONTRACT NO. 15-0909JE

MANATEE CO. PROJECT MANAGER:  
ERIC S. SHROYER, P.E.

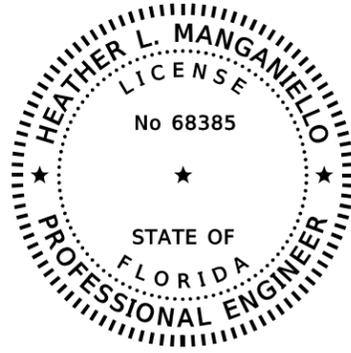
**GOVERNING STANDARD SPECIFICATIONS:**

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

Manatee County Public Works Standards Part I. Utilities Standard Manual, Latest Edition

FISCAL YEAR	SHEET NO.
21	U-1

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



THIS ITEM HAS BEEN DIGITALLY  
SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

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

HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232-6212  
HEATHER L. MANGANIELLO, PE NO. 68385

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
U-1	KEY SHEET
U-2	SIGNATURE SHEET
U-3	SUMMARY OF PAY ITEMS
U-4	GENERAL NOTES
U-5	UTILITY PLANS
U-6	UTILITY PROFILES
U-7 - U-12	UTILITY DETAILS

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

		SCALE	AS NOTED		 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE	11/2020		 <b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER	HEATHER MANGANIELLO		<b>SIGNATURE SHEET</b>	SHEET NO.	
		DESIGNED BY	HLM			PROJECT NO.	6092460			FL. LICENSE NO.	68385				
		DRAWN BY	OMC												
		CHECKED BY	HLM												
No.	REVISIONS		DATE	BY	PW:\										
	11/20/2020														

UTILITY PLANS			
ITEM NO.	ITEM	UNIT	QUANTITY
MC-1	MOBILIZATION	LS	1
MC-2	GATE VALVES	LS	4
MC-3	DUCTILE IRON PIPE, WATER	LF	189
MC-4	DUCTILE IRON FITTINGS, WATER	LS	10
MC-5	HYDRANT RELOCATION	LS	1
MC-6	SODDING	SY	100
MC-7	PAVEMENT REPAIR AND ROAD RESTORATION	SY	240
MC-8	ARV WITH ENCLOSURE	LS	2
MC-9	AC/DI ADAPTER	LS	2
MC-10	SAMPLE POINT	LS	3
MC-11	REMOVE 0-6" WATER MAIN	LF	193
MC-12	JOINT RESTRAINT	EA	55
MC-13	RECORD DRAWINGS	LS	1

No.	REVISIONS	DATE	BY	PW:\	SCALE	AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE	11/20/20	 <b>MANATEE COUNTY</b> PUBLIC WORKS	DESIGN ENGINEER	HEATHER MANGANIELLO	<b>SUMMARY OF PAY ITEMS</b>	SHEET NO.	U-3
					DESIGNED BY	HLM		PROJECT NO.	6092460		FL. LICENSE NO.	68385			
					DRAWN BY	OMC									
					CHECKED BY	HLM									

# GENERAL NOTES

- THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED VV, VH AND VVH) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
- RECORD DRAWING INFORMATION SHALL BE SUPPLIED IN ACCORDANCE WITH THE MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS INCLUDING, BUT NOT LIMITED TO FINISHED GRADE ELEVATIONS, TIES TO WATER MAINS, VALVES, BENDS, ELEVATIONS OF PIPES WHERE DEPTH OF COVER VARIES FROM DESIGN, AND LOCATIONS OF SAMPLE POINTS FOR WATER COMPLIANCE TESTING, LOCATIONS, DIMENSIONS, AND ELEVATIONS OF ALL OTHER CONSTRUCTION COMPONENTS WHICH VARY FROM THE DESIGN.
- RESPECTIVE PROPERTY OWNERS SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF ANY AND ALL WORK REQUIRING DISRUPTION OF ACCESS, WATER SERVICE. DISRUPTION IN SERVICE TO ANY PROPERTY OWNER SHALL NOT EXCEED 2 HOURS FOR WATER.
- COVER AS MEASURED FROM FINISHED (PROPOSED) GRADE TO TOP OF THE PIPELINE SHALL BE A MINIMUM OF 36 INCHES UNLESS OTHERWISE INDICATED.
- PIPELINE ALIGNMENTS SHALL BE ADJUSTED (AS REQUIRED) HORIZONTALLY AND/OR VERTICALLY TO AVOID CONFLICTS WITH ACTUAL FIELD CONDITIONS AS UNCOVERED DURING CONSTRUCTION. FIELD ADJUSTMENT SHALL BE COORDINATED WITH, AND APPROVED BY, THE ENGINEER.
- ALL FITTINGS, VALVES, PIPE AND APPURTENANCES TO BE RESTRAINED VIA MECHANICAL RESTRAINTS OR INTERNAL JOINT RESTRAINTS. THRUST BLOCKS TO BE FURNISH AND INSTALLED IN ADDITION TO MECHANICAL RESTRAINTS WHERE NOTED.
- CONTRACTOR TO COORDINATE WITH COUNTY PUBLIC WORKS DEPARTMENT AND FIRE MARSHALL WHEN TAKING FIRE HYDRANT OFFLINE. CONTRACTOR MUST RECEIVE APPROVAL FROM THE FIRE MARSHALL PRIOR TO TAKING THE FIRE HYDRANT OUT OF SERVICE.
- CONTRACTOR TO COORDINATE WITH FPL FOR POWER POLE STABILIZATION AND DE-ENERGIZING OF POWER LINES DURING CONSTRUCTION. CONTRACTOR TO SUPPORT POWER POLES AND OTHER UTILITIES DURING CONSTRUCTION.
- ASBESTOS CEMENT PIPE REMOVAL.
  - THE CONTRACTOR WILL BE RESPONSIBLE FOR PERMITTING, REMOVAL AND DISPOSAL OF ASBESTOS-CEMENT (A-C) PIPE. THE FOLLOWING PARAGRAPHS BRIEFLY SUMMARIZE PERMITTING, FIELD PROCEDURES AND DISPOSAL ACTIVITIES RELATED TO THE A-C PIPE. THE CONTRACTOR MUST COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS/REGULATIONS.
  - THE CONTRACTOR SHALL PROVIDE EVIDENCE OF EXPERIENCE OF PROPER PROCEDURES IN REMOVAL, HANDLING AND DISPOSAL OF A-C PIPE MATERIALS WITHIN THE PAST FIVE (5) YEARS. REFERENCES FROM AT LEAST THREE COMPLETED PROJECTS SHALL BE PROVIDED PRIOR TO COMMENCING CONSTRUCTION. IF THE CONTRACTOR PROPOSES TO UTILIZE THE SERVICES OF A DULY QUALIFIED SUBCONTRACTOR FOR THIS PORTION OF THE WORK, THESE SAME REQUIREMENTS SHALL BE MET.
- ASBESTOS CEMENT PIPE REMOVAL: PERMITTING
  - THE CONTRACTOR SHALL APPLY FOR AND OBTAIN ALL PERMITS RELATED TO REMOVAL OF THE A-C PIPE. IN ACCORDANCE WITH FLORIDA ADMINISTRATIVE CODE (FAC) 62-257, THE CONTRACTOR MUST SUBMIT TO FDEP A "NOTICE OF DEMOLITION OF ASBESTOS RENOVATION" FORM (FDEP FORM 62-257.900(1)) WITH A COPY TO THE ENGINEER. THE CONTRACTOR WILL SUBMIT THE FORM TO FDEP IN A TIMELY MANNER IN ACCORDANCE WITH THE SCHEDULE CONTAINED IN FAC 62-257.301. THE AGENCIES THAT MAY REQUIRE PERMITS FOR THIS PROJECT ARE NOT NECESSARILY LIMITED TO THE FDEP.

- ASBESTOS CONCRETE PIPE REMOVAL: FIELD PROCEDURES
  - THE CONTRACTOR IS RESPONSIBLE FOR ALL PROCEDURES, INCLUDING SAFETY AND HEALTH PROCEDURES, WHICH WILL BE USED WHEN HANDLING A-C PIPE. THE CONTRACTOR'S HANDLING OF A-C PIPE SHALL BE IN CONFORMANCE WITH 29 CFR 1926.1101 (OSHA SAFETY AND HEALTH STANDARDS).
  - CUTTING OF A-C PIPE SHALL BE DONE IN CONFORMANCE WITH THE RECOMMENDED PRACTICES CONTAINED IN THE AMERICAN WATER WORKS ASSOCIATION'S (AWWA) MANUAL "WORK PRACTICES FOR ASBESTOS-CEMENT PIPE; PAMPHLET 1978", MANUAL NO. M16. CUTTING METHODS SHOULD BE USED WHICH MINIMIZE THE PRODUCTION OF AIRBORNE DUST, SUCH AS WETTING THE PIPE.
- ASBESTOS CEMENT PIPE REMOVAL: PREPARATION OF TRANSPORT OF MATERIALS
  - THE CONTRACTOR WILL REMOVE THE PIPE FROM THE GROUND IN WHOLE PIECES WITHOUT FRACTURING, BREAKING OR OTHERWISE DAMAGING PIPE. THE A-C PIPE SHALL BE WRAPPED IN PLASTIC AND CAREFULLY LOADED ONTO THE TRANSPORT VEHICLE WITHOUT DAMAGING THE PIPE. THE TRANSPORT VEHICLE SHALL TOTALLY ENCLOSE THE A-C PIPE SO THAT WIND AND RAIN CANNOT DISPERSE DUST FROM THE PIPE MATERIAL. TRANSPORT OF THE A-C PIPE SHALL ALSO MEET THE REQUIREMENTS OF THE WASTE DISPOSAL AGENCY.
- ASBESTOS CEMENT PIPE REMOVAL: WASTE DISPOSAL
  - AS STATED IN FAC 62-701.520(3), ASBESTOS CONTAINING WASTE MATERIALS CAN BE ACCEPTED AT A PERMITTED CLASS I, II OR III LANDFILL. THE REGULATION ALSO INDICATES THAT THE WASTE GENERATOR (THE CONTRACTOR) SHALL MAKE ARRANGEMENTS WITH THE LANDFILL OPERATOR BEFORE DISPOSAL OF THE ASBESTOS CONTAINING WASTE MATERIALS AND INFORM THE OPERATOR OF THE QUANTITY OF THE WASTE AND THE SCHEDULED DATE THE SHIPMENT WILL ARRIVE AT THE LANDFILL. THE CONTRACTOR SHALL PROVIDE THE ENGINEER A MANIFEST IMMEDIATELY FOLLOWING DISPOSAL.

# SPECIAL CONDITIONS

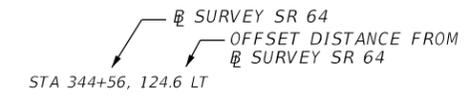
- BENCH MARK DATUM IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- CONSTRUCT HORIZONTAL AND VERTICAL TRANSITION OF PIPELINE BY DEFLECTION OF PIPE JOINTS USING NOT MORE THAN 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER. SHOP DRAWINGS SHALL BE FURNISHED FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIAL FITTINGS PRIOR TO FABRICATION OR DELIVERY TO JOB SITE.
- PROVIDE TEMPORARY THRUST RESTRAINT, BRACING, TESTING PLUGS, AND OTHER DEVICES NECESSARY TO SUCCESSFULLY COMPLETE PRESSURE TESTING OF PIPING SYSTEMS.
- ALL PROPOSED DUCTILE IRON PIPE AND FITTINGS WITHIN PROJECT LIMITS SHALL BE RESTRAINED JOINT, DUCTILE IRON PIPE, AND FITTINGS ARE TO BE WRAPPED IN BLUE (WATER) POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARD C-105. POLYETHYLENE WRAP SHALL BE INCLUDED IN THE PRICE OF THE PIPE.
- ALL EXISTING WATER MAINS IDENTIFIED TO BE REMOVED OR PLACED OUT OF SERVICE CANNOT BE REMOVED OR PLACED OUT OF SERVICE UNTIL PROPOSED FACILITIES HAVE BEEN CONSTRUCTED, TESTED, CLEARED, AND PLACED IN SERVICE.
- WATER SERVICE CONVEYANCE MUST BE MAINTAINED FOR ALL CUSTOMERS AT ALL TIMES, EXCEPT FOR MINOR DISRUPTIONS DURING CONNECTIONS/CHANGEOVERS. COORDINATE ALL SYSTEM SHUT DOWNS WITH COUNTY OPERATIONS STAFF AND AS REQUIRED IN THE SPECIFICATIONS.
- ALL UTILITY RELOCATION MUST BE IN PLACE, TESTED, CLEARED AND OPERATIONAL PRIOR TO ROADWAY CONSTRUCTION THAT IMPACTS EXISTING UTILITIES.

# 8. PROPOSED PIPE SYMBOLOLOGY

PROPOSED WATER MAIN (RESTRAINED JOINT)



REMOVE, RELOCATE, AND/OR ABANDON



PROPOSED FITTING: (EXAMPLE)

PROPOSED GATE VALVE:

VVH BY MANATEE COUNTY:

- IN THE EVENT OF A WATER OR SEWER MAIN BREAK, CALL 24 HOUR EMERGENCY NUMBER (941) 792-8811 EXT. 5216
- ALL CONCRETE SHOWN IN THESE DRAWINGS, UNLESS OTHERWISE NOTED, SHALL CONFORM TO CLASS NS CONCRETE.
- THESE CONTRACT DOCUMENTS INCLUDE BY REFERENCE THE MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS APPROVED JUNE 2015
- SUBMIT WATER MAIN BACTERIOLOGICAL SAMPLING PLAN FOR REVIEW. SAMPLE LOCATIONS INCLUDE, AT A MINIMUM, ALL POINTS OF CONNECTION TO EXISTING WATER MAIN. ALL TERMINAL ENDS AND MAXIMUM INTERVALS OF 1,200 FEET BETWEEN TWO SAMPLING LOCATIONS. SAMPLE POINT FURNISH AND INSTALLATION AND REMOVAL COST TO BE INCORPORATED INTO COST OF NEW MAINS. NOTE SAMPLE POINT CORPORATION STOP LOCATIONS ON AS-BUILTS.
- SUBMIT AND OBTAIN APPROVAL OF SHOP DRAWINGS, CONSTRUCTION SCHEDULE AND THE FOLLOWING PLANS PRIOR TO BEGINNING CONSTRUCTION (NOT LIMITED TO):
  - SHUTDOWN SCHEDULE AND PLAN TO INCLUDE BUT NOT LIMITED TO PIPE DEWATERING AND DISPOSAL PLANS; CONNECTION SCHEDULE FOR WATER MAINS (INCLUDING LINSTOPS); WATER MAIN SAMPLING PLAN AND LOCATIONS FOR BACTRIOLOGICAL TESTING; PRESSURE TESTING SCHEDULE; LINSTOP LOCATIONS.
  - EROSION CONTROL AND STORMWATER POLLUTION PROTECTION PLANS TO BE COORDINATED WITH ROADWAY PROJECT.
- ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PROCESS SHALL BE REMOVED AND DISPOSED OF PRIOR TO FINAL ACCEPTANCE.
- ADJUST ALL VALVES (LIDS AND STEMS), ARVS, MANHOLE LIDS, VAULT ACCESS HATCHES, AND FIRE HYDRANTS WITHIN PROJECT LIMITS TO NEW/PROPOSED GRADE. COST TO BE INCORPORATED INTO INITIAL BID PRICE.

# ABBREVIATIONS

APPROX.	APPROXIMATE
ARV	AIR RELEASE VALVE
BL	BASELINE
CI	CAST IRON
CL	CENTERLINE
CONST.	CONSTRUCT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
EL	ELEVATION
ELEV.	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST.	EXISTING
FL	FLOW LINE
FM	FORCE MAIN
GM	GAS MAIN
GR	GRADE
HDD	HORIZONTAL DIRECTIONAL DRILL
HDPE	HIGH DENSITY POLYETHYLENE
INV.	INVERT
LA	LIMITED ACCESS
LT	LEFT
MCU	MANATEE COUNTY UTILITIES
MIN	MINIMUM
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE POLYETHYLENE
P.E.	PROPOSED
PROP.	POLYVINYL CHLORIDE
PVC	PROPOSED
R/W	RIGHT OF WAY
RJ	RESTRAINED JOINT
RT	RIGHT
SD	STORM DRAIN
STA.	STATION
TOP	TOP OF PIPE
TYP	TYPICAL
WM	WATER MAIN

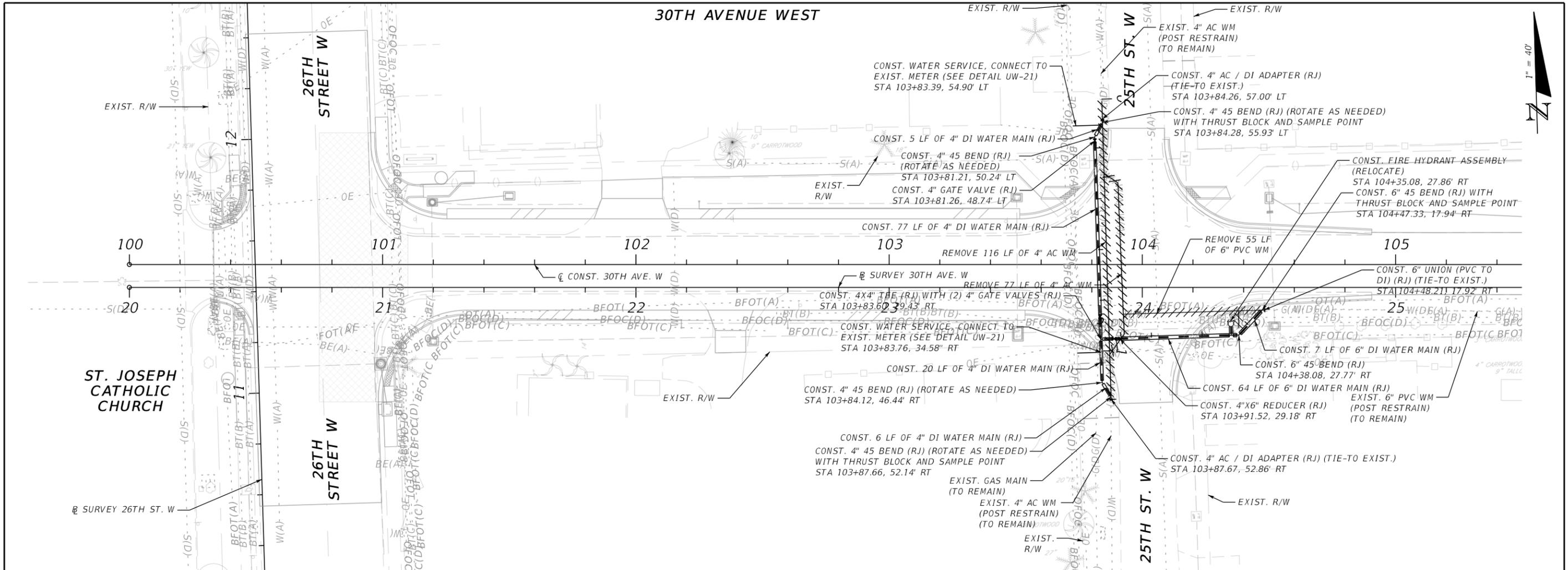
# UTILITY CONTACTS

- CHARTER COMMUNICATIONS  
ALEX FLEMMING  
5413 E. STATE ROAD 64  
BRADENTON, FL 34208-5535  
(941) 748-3816  
James.Fleming@mybriighthouse.com
- CITY OF BRADENTON  
KIM CLAYBACK  
1411 NINTH STREET WEST  
BRADENTON, FL 34205  
(941) 708-6300 EXT.: 224  
kim.clayback@cityofbradenton.com
- FLORIDA POWER & LIGHT  
GREG COKER  
1253 12TH AVENUE EAST  
PALMETTO, FL 34221  
(941) 723-4430  
gregcoker@fpl.com
- FRONTIER COMMUNICATIONS  
DENISE HUTTON  
1701 RINGLING BLVD.  
SARASOTA, FL 34236  
(941) 906-6722  
denise.hutton@ftr.com
- MANATEE COUNTY PUBLIC WORKS  
KATHY MCMAHON  
1022 26TH AVENUE EAST  
BRADENTON, FL 34208  
(941) 708-7450  
kathy.mcMahon@mymanatee.org
- CROWN CASTLE FIBER  
DANNY HASKETT  
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SUNRISE, FL 33323  
(786) 610-7073
- TECO PEOPLES GAS  
DAN SHANAHAN  
8261 VICO COURT  
SARASOTA, FL 34240  
(941) 342-4006  
dshanahan@tecoenergy.com

SCALE AS NOTED				DATE 11/2020		DESIGN ENGINEER HEATHER MANGANIELLO		SHEET NO. U-4
DESIGNED BY HLM				PROJECT NO. 6092460		FL. LICENSE NO. 68385		
DRAWN BY OMC				HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233		MANATEE COUNTY PUBLIC WORKS		GENERAL NOTES
CHECKED BY HLM				MANATEE COUNTY FLORIDA				
No.	REVISIONS	DATE	BY					

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30TH AVENUE WEST



ST. JOSEPH CATHOLIC CHURCH

NOTES:

- EXISTING FIRE HYDRANT TO BE RELOCATED. CONTRACTOR SHALL INSTALL A NEW 6" GATE VALVE AND NEW 6" TEE (RJ). EXISTING FIRE HYDRANT VALVE AND TEE TO BE REMOVED AND DISPOSED OF AS PART OF RELOCATION.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER MAINS, STORM WATER PIPES, SIDE DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAILBOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENTS OR FACILITIES WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEMS DUE TO CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST.

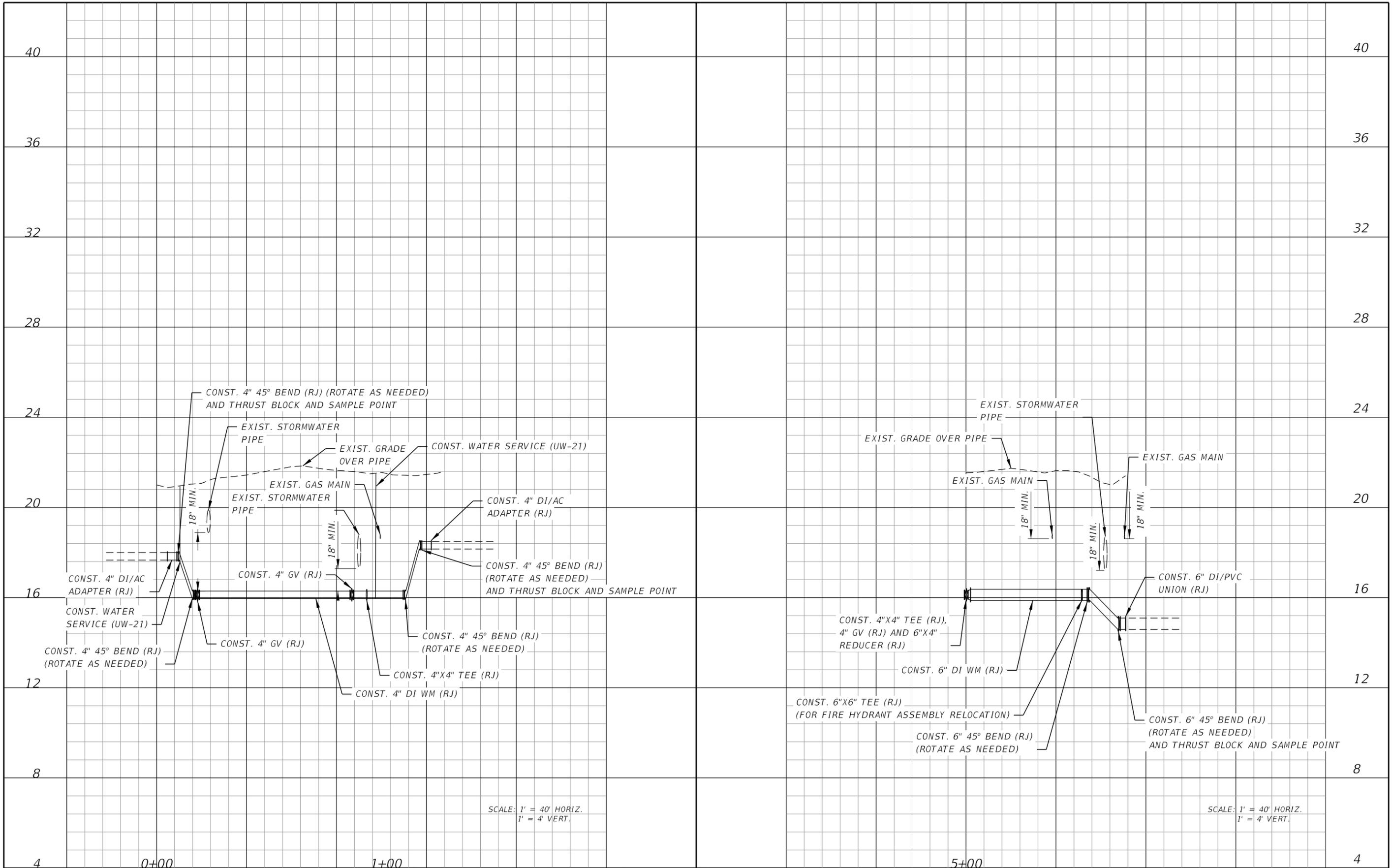
SCALE AS NOTED		 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233	DATE 11/2020	 <b>MANATEE COUNTY</b> <b>PUBLIC WORKS</b>	DESIGN ENGINEER HEATHER MANGANIELLO	<b>UTILITY PLANS</b>	SHEET NO. U-5
DESIGNED BY HLM			PROJECT NO. 6092460		FL. LICENSE NO. 68385		
DRAWN BY OMC							
CHECKED BY HEH							
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12/24/2020

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SCALE: 1" = 40' HORIZ.  
1" = 4' VERT.

SCALE: 1" = 40' HORIZ.  
1" = 4' VERT.

No.	REVISIONS	DATE	BY


**HDR**  
 HDR Engineering, Inc.  
 2601 Cattlemen Road  
 Suite 400  
 Sarasota, FL 34232-6233

DATE  
 11/2020  
 PROJECT NO.  
 6092460


**MANATEE COUNTY  
PUBLIC WORKS**

DESIGN ENGINEER  
 HEATHER MANGANIELLO  
 FL. LICENSE NO.  
 68385

**UTILITY PROFILES**  
 SHEET NO.  
 U-6

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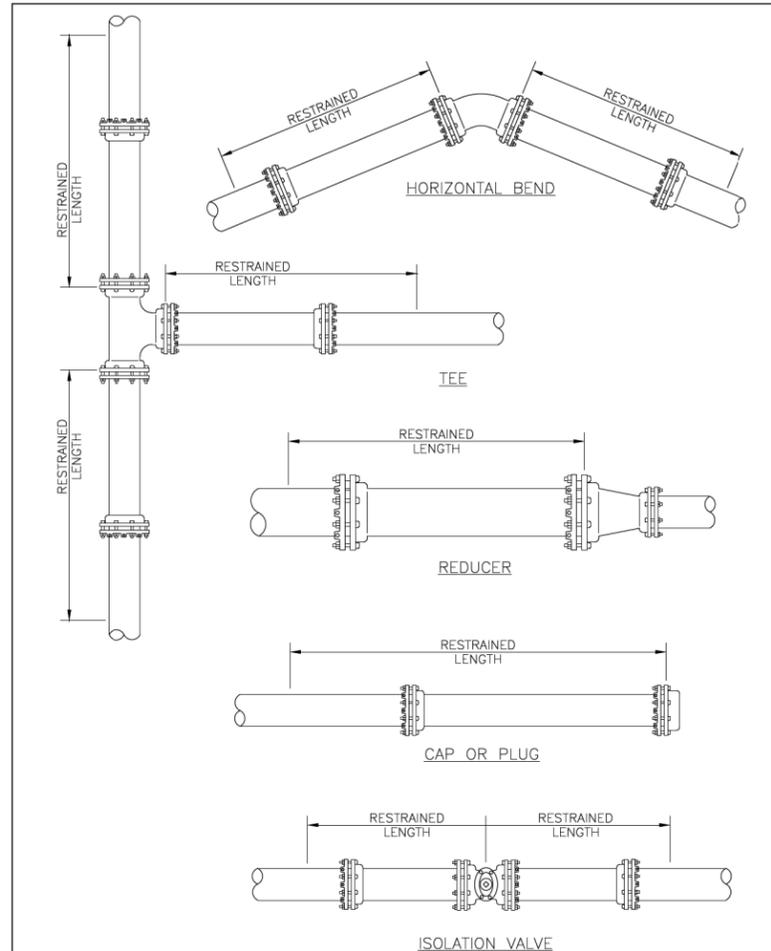


**REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)**

MAIN PIPE SIZE	HORIZ. BENDS			TEES								REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE		LENGTH		SIZE		LENGTH						
36	142	59	28	x36	x30	x24	x20	x16	x12	x30	x24	x20	x16	453		
30	124	51	25	x30	x24	x20	x16	x12	x10	x24	x20	x16	x12	391		
24	106	44	21	x24	x20	x16	x12	x10	x8	x20	x16	x12	x10	327		
20	92	38	18	x20	x16	x12	x10	x8	x6	x16	x12	x10	x8	280		
16	77	32	15	x16	x12	x10	x8	x6	x4	x12	x10	x8	x6	231		
12	61	25	12	x12	x10	x8	x6	x4	x3	x10	x8	x6	x4	181		
10	52	22	10	x10	x8	x6	x4	x3	x2	x8	x6	x4	x3	153		
8	44	18	9	x8	x6	x4	x3	x2	x1	x6	x4	x3	x2	128		
6	34	14	7	x6	x4	x3	x2	x1		x4	x3	x2	x1	98		
4	24	10	5	x4	x3	x2	x1			x3	x2	x1		69		

NOTE:  
1. SEE UG-8, RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

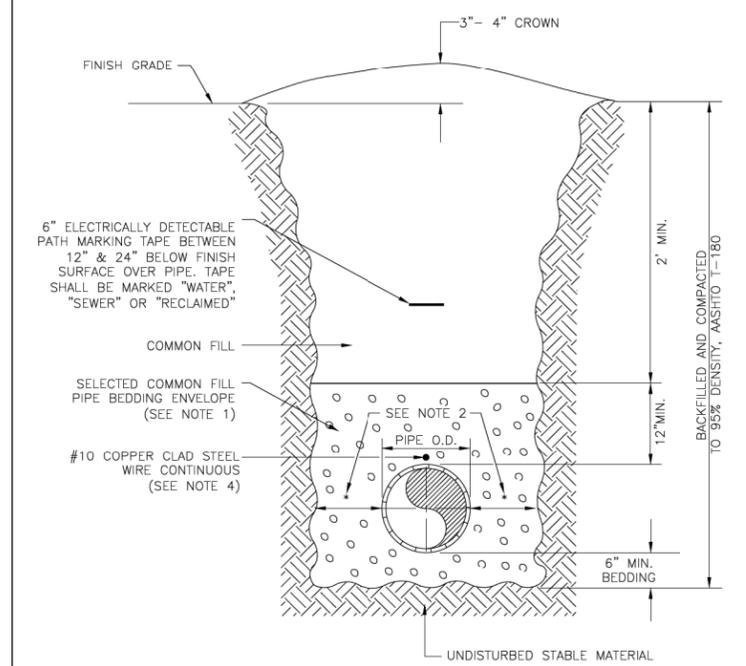
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



NOTE:  
1. SEE DETAIL UG-8 RESTRAINED LENGTHS FOR PVC PIPE FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR PIPE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PIPE	UG-10
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- NOTES:
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
  - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

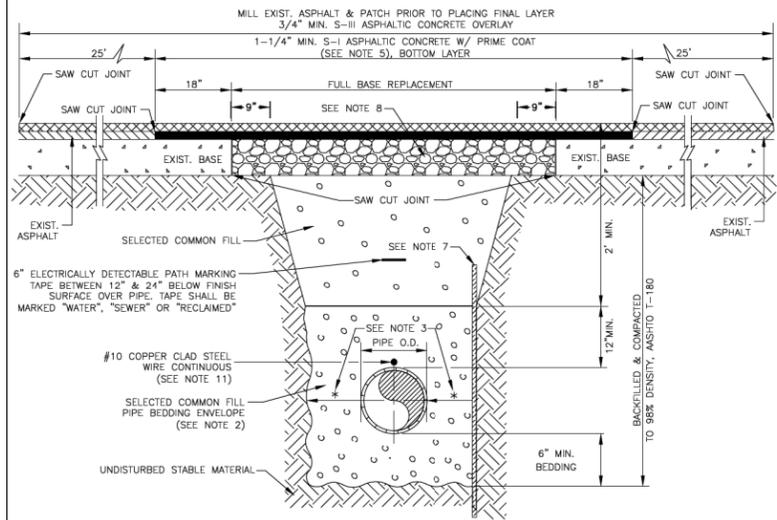
- NOTES:
- THESE RESTRAINED JOINT LENGTHS ARE BASED ON THE FOLLOWING CRITERIA:
    - SOIL TYPE: WELL-GRADED SAND
    - BEDDING TYPE: X
    - SAFETY FACTOR: X
    - TEST PRESSURE: XXX PSI
  - IN ADDITION TO THE ABOVE, THE FOLLOWING RESTRAINT LENGTHS SHALL BE UTILIZED
    - 6"x4" REDUCER: xx FT

No.	REVISIONS		DATE	BY	SCALE AS NOTED	DESIGNED BY HLM	DRAWN BY OMC	CHECKED BY HLM	DATE 11/2020	PROJECT NO. 6092460	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER HEATHER MANGANIELLO FL. LICENSE NO. 68385	UTILITY DETAILS (2 OF 6)	SHEET NO.

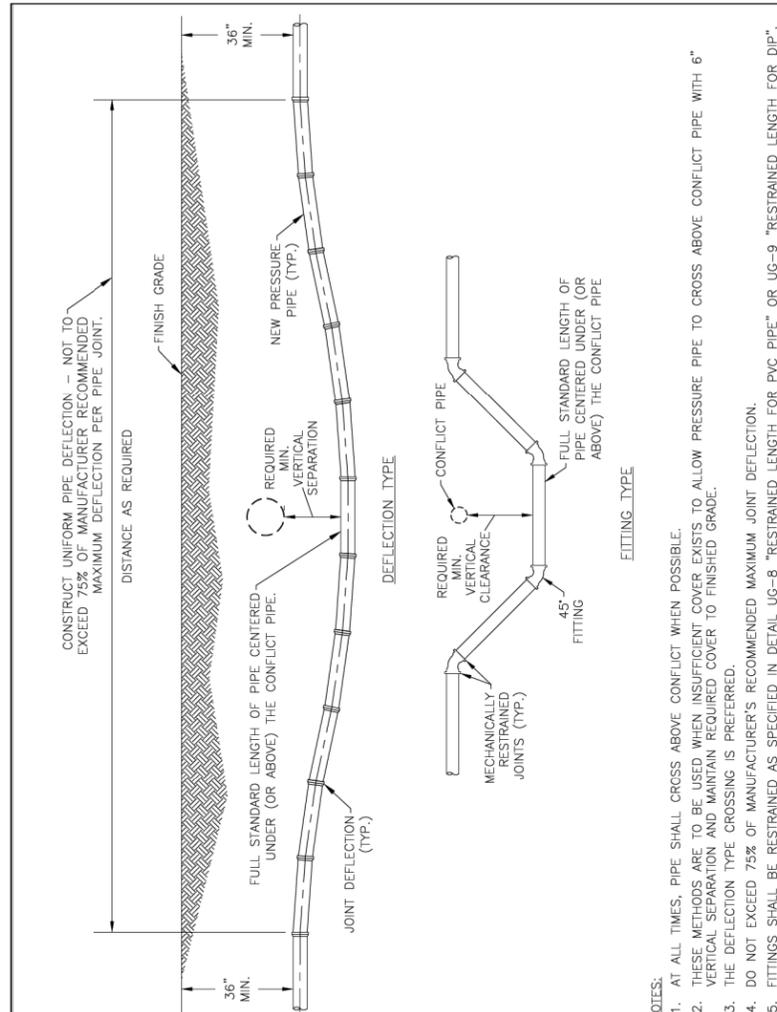
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**NOTES:**

1. BITUMINOUS PAVEMENT SHALL BE REMOVED IN CLEAN STRAIGHT LINES BY SAW CUTTING. WHERE BITUMINOUS PAVEMENT ADJOINS A TRENCH, THE EDGES ADJACENT TO THE TRENCH SHALL BE TRIMMED TO A NEAT STRAIGHT LINES BEFORE RESURFACING TO ENSURE THAT ALL AREAS TO BE RESURFACED ARE ACCESSIBLE TO ROLLERS OR TAMPERS USED TO COMPACT THE SUB-GRADE OR PAVING MATERIALS.
2. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
3. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1-1/4 INCH S-I, WHICHEVER IS GREATER.
6. MILL 25' BACK FROM TRENCH CROSSING SAW CUTS. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCERNABLE "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
7. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
8. NEW BASE SHALL MATCH EXISTING; OR BE CRUSHED CONCRETE, 8" MIN. THICKNESS, LBR ≥150, WHICHEVER IS GREATER.
9. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
10. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
12. NOTES 5. THRU 10. ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A LOCAL ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.

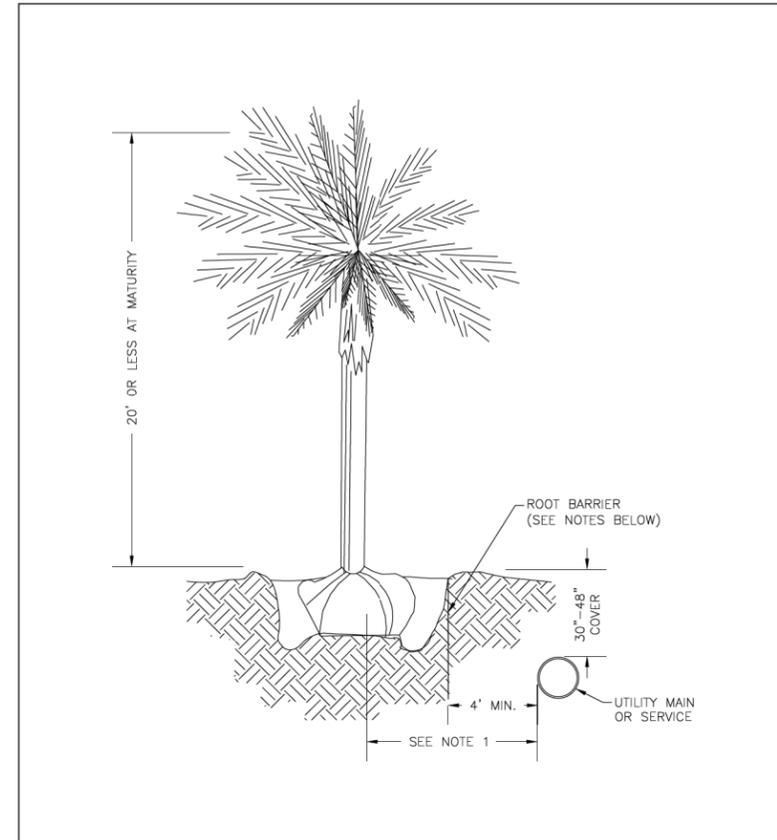


<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (CROSSING)	UG-12
REV. BY	DATE	<b>February 25, 2020</b> DATE OF APPROVAL	



<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		PRESSURE PIPE DEFLECTION AT UTILITY CROSSING	UG-18
REV. BY	DATE	<b>February 25, 2020</b> DATE OF APPROVAL	

- NOTES:**
1. AT ALL TIMES, PIPE SHALL CROSS ABOVE CONFLICT WHEN POSSIBLE.
  2. THESE METHODS ARE TO BE USED WHEN INSUFFICIENT COVER EXISTS TO ALLOW PRESSURE PIPE TO CROSS ABOVE CONFLICT PIPE WITH 6" VERTICAL SEPARATION AND MAINTAIN REQUIRED COVER TO FINISHED GRADE.
  3. THE DEFLECTION TYPE CROSSING IS PREFERRED.
  4. DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION.
  5. FITTINGS SHALL BE RESTRAINED AS SPECIFIED IN DETAIL UG-8 "RESTRAINED LENGTH FOR PVC PIPE" OR UG-9 "RESTRAINED LENGTH FOR DIP".



- NOTES:**
1. THIS DISTANCE SHALL BE 7' MINIMUM WITH ROOT BARRIER AND 10' MINIMUM IF NO ROOT BARRIER IS USED.
  2. ALL ROOT BARRIERS SHALL BE 4" MINIMUM FROM ALL MAINS AND SERVICES.
  3. THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH MANATEE COUNTY AND INSPECTED BY MANATEE COUNTY PRIOR TO BACKFILLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
  4. ROOT BARRIERS SHALL BE A FLEXIBLE PANEL BARRIER, A MINIMUM 36" DEEP.
  5. ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		TYP. SMALL TREE OR PALM TREE WITH ROOT BARRIER	UG-19
REV. BY	DATE	<b>February 25, 2020</b> DATE OF APPROVAL	

SCALE	AS NOTED		
DESIGNED BY	HLM		
DRAWN BY	OMC		
CHECKED BY	HLM		
No.	REVISIONS	DATE	BY



HDR Engineering, Inc.  
2601 Cattlemen Road  
Suite 400  
Sarasota, FL 34232-6233

DATE

11/2020

PROJECT NO.

6092460



**MANATEE COUNTY**  
PUBLIC WORKS

DESIGN ENGINEER

HEATHER MANGANIELLO

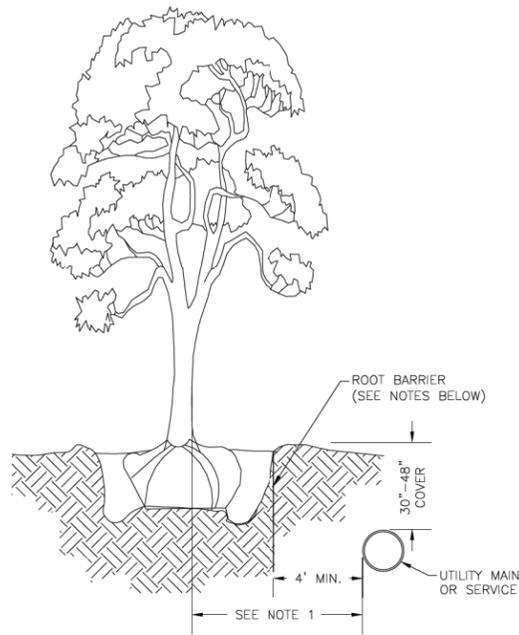
FL. LICENSE NO.

68385

**UTILITY DETAILS**  
(3 OF 6)

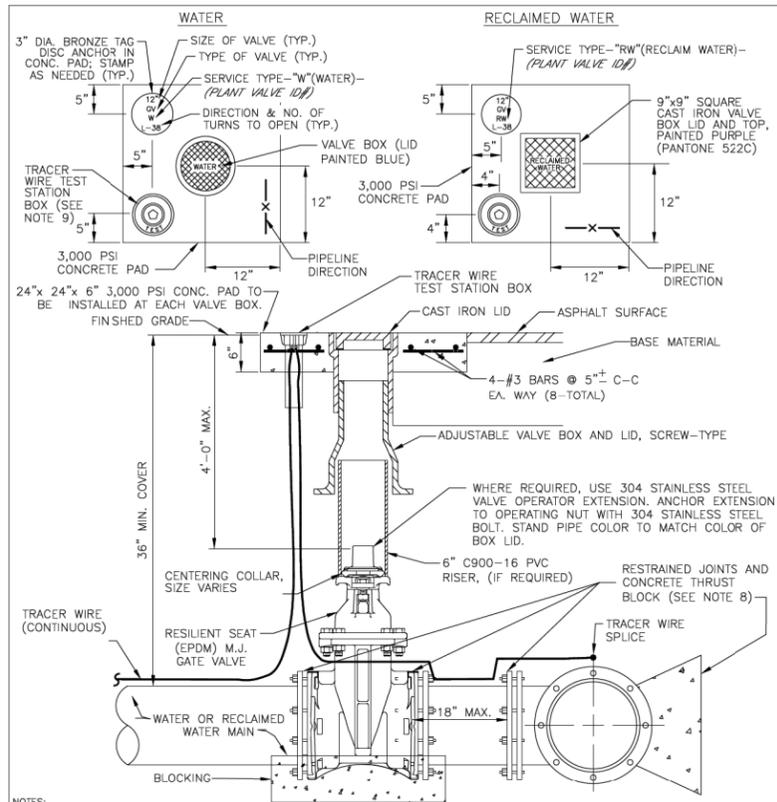
SHEET NO.

U-9



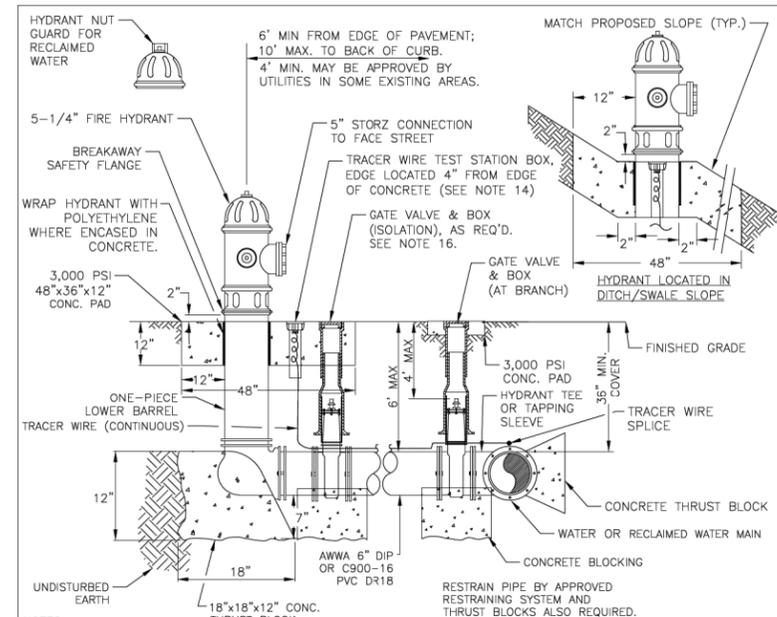
- NOTES:
1. THIS DISTANCE SHALL BE 10' MINIMUM WITH ROOT BARRIER AND 15' MINIMUM IF NO ROOT BARRIER IS USED.
  2. ALL ROOT BARRIERS SHALL BE 4' MINIMUM FROM ALL MAINS AND SERVICES.
  3. THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH MANATEE COUNTY AND INSPECTED BY MANATEE COUNTY PRIOR TO BACKFILLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
  4. ROOT BARRIERS SHALL BE MINIMUM 36" DEEP. FLEXIBLE BARRIERS SHALL BE 36" PANELS.
  5. ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.
  6. LARGE PALM TREES INCLUDE ROYAL, WASHINGTONIAN, BISMARCK AND SIMILAR SIZED SPECIES.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYP. CANOPY TREE, LARGE PALM OR EXOTIC TREE WITH ROOT BARRIER	UG-20
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



- NOTES:
1. "W" or "RW" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "W" OR PURPLE DISC WITH "RW" USING A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
  2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
  3. VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, CURBS, OR GUTTERS.
  4. PRECAST CONCRETE PADS SHALL NOT BE USED.
  5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
  6. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
  7. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX.
  8. WHERE THRU-BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR TEES.
  9. USE NON-TRAFFIC RATED BOXES FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE TRAFFIC RATED BOXES, WHERE POSSIBLE, LOCATE TRACER WIRE TESTING STATION OUTSIDE OF TRAVEL LANE OR IN MEDIAN, CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.
  10. THE BRASS TAG SHALL HAVE A "PLANT VALVE ID# WHEN VALVES ARE INSTALLED WITHIN THE COUNTY TREATMENT PLANT LIMITS. THE PLANT VALVE ID# SHALL BE SHOWN ON THE CONSTRUCTION PLANS AND RECORD DRAWINGS.
  11. REFER TO SECTION 1.11 GATE VALVES IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL FOR FURTHER DETAILS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, LID AND TAG	UW-2
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



- NOTES:
1. WEEPHOLES SHALL BE EXCLUDED FROM THE FIRE HYDRANT.
  2. FIRE HYDRANTS SHALL BE A MINIMUM OF 6" OFF EDGE OF PAVEMENT AND 10' MAX. FROM BACK OF CURB, WHERE POSSIBLE AND WHERE SIDEWALK IS TO BE INSTALLED, FIRE HYDRANT SHALL BE LOCATED BETWEEN SIDEWALK AND RIGHT-OF-WAY LINE.
  3. HYDRANT SHALL BE DUCTILE IRON CONSTRUCTION. HYDRANTS SHALL BE FUSION BONDED EPOXY COATED SAFETY YELLOW FOR WATER; PURPLE (PANTONE 522C) FOR RECLAIMED WATER; AND RED FOR PRIVATE.
  4. FIRE HYDRANTS SHALL BE PLACED SO THAT STORM WATER FLOWS AWAY FROM THE HYDRANT.
  5. FIRE HYDRANTS SHALL BE CONSTRUCTED WITH "GROUND LINE" SET TO FINISHED GRADES AS ESTABLISHED IN THE FIELD. NORMAL BURY IS 3 FEET OF COVER FOR ALL WATER LINES.
  6. FIRE HYDRANTS MAY BE CONSTRUCTED WITH "GRADELOK" OFFSET FITTING.
  7. RAISED REFLECTIVE PAVEMENT MARKER(S) (BLUE) FOR POTABLE WATER (PURPLE) FOR RECLAIMED WATER SHALL BE INSTALLED ON THE PAVEMENT DIRECTLY ACROSS FROM THE HYDRANT IN ACCORDANCE WITH THE FDOT TRAFFIC ENGINEERING MANUAL, CHAPTER 4, SECTION 4.3 OR MOST CURRENT ADDITION.
  8. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE 1/2" CHAMFER.
  9. FIRE HYDRANT VALVE SHALL BE FASTENED DIRECTLY TO TEE.
  10. IN-LINE VALVES SHOULD BE LOCATED AT HYDRANT TEES.
  11. HYDRANTS SHALL BE LOCATED ON SAME SIDE OF ROAD AS WATER OR RECLAIMED MAIN.
  12. THERE MUST BE A CLEARANCE OF 7 1/2 FEET FROM FRONT AND BOTH SIDES, AND FOUR FEET TO THE REAR OF THE HYDRANT, TO ABOVE GRADE OBSTRUCTIONS INCLUDING POSTS, FENCES, TREES, ETC, PER THE FLORIDA FIRE PREVENTION CODE.
  13. SEE STANDARD DETAIL UW-2 GATE VALVE, BOX, LID AND TAG.
  14. SHOULD THE FIRE HYDRANT'S CONCRETE PAD OVERLAP A SIDEWALK, THE TRACER WIRE TEST STATION BOX SHALL NOT BE LOCATED WITHIN THE SIDEWALK.
  15. IF A HYDRANT IS LOCATED ON THE SLOPE OF A DITCH OR SWALE; THE CONCRETE PAD SHALL CONFORM TO THE FINISH GRADE/SLOPE. THE CONCRETE PAD SHALL BE LEVEL 2-INCHES BEHIND & IN FRONT OF THE HYDRANT.
  16. AT THE DISCRETION OF THE COUNTY AN ADDITIONAL ISOLATION GATE VALVE SHALL BE ADDED, WHEN A PHYSICAL BARRIER IS PRESENT, (I.E. ROADWAY, FENCE, WALL, BERM ETC), BETWEEN THE BRANCH GATE VALVE AND THE HYDRANT.
  17. SEE SECTION 1.11 HYDRANTS IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL FOR FURTHER DETAILS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		FIRE HYDRANT ASSEMBLY	UW-5
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

SCALE	AS NOTED		
DESIGNED BY	HLM		
DRAWN BY	OMC		
CHECKED BY	HLM		
No.	REVISIONS	DATE	BY
		11/20/2020	PW:\



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2601 Cattlemen Road  
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Sarasota, FL 34232-6233

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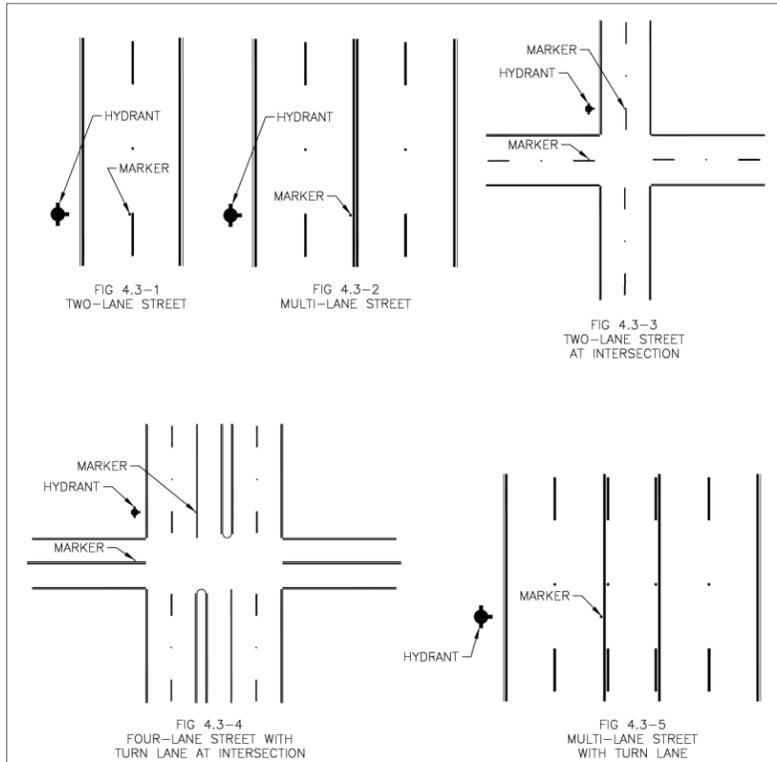


MANATEE COUNTY  
PUBLIC WORKS

DESIGN ENGINEER  
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FL. LICENSE NO.  
68385

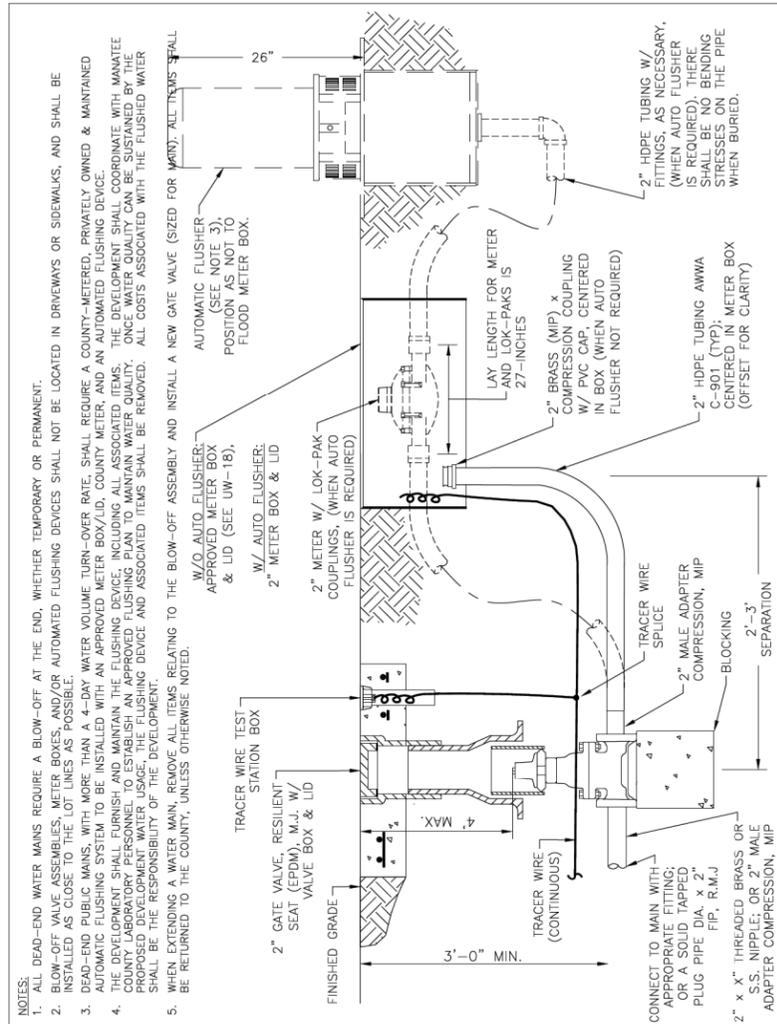
UTILITY DETAILS  
(4 OF 6)

SHEET  
NO.  
U-10



- NOTES:
- TWO-WAY STREETS OR ROADS: MARKER SHOULD BE PLACED 6 INCHES FROM EDGE OF PAINTED CENTERLINE ON THE SIDE NEAREST THE FIRE HYDRANT. IF THE STREET HAS NO CENTERLINE, THE MARKER SHOULD BE PLACED 6 INCHES FROM APPROXIMATE CENTER OF THE ROADWAY ON THE SIDE NEAREST THE HYDRANT. SEE FIGURE 4.3-1, 4.3-2, AND 4.3-3.
  - STREETS WITH LEFT TURN LANE AT INTERSECTION: MARKER SHOULD BE PLACED 6 INCHES FROM EDGE OF PAINTED WHITE CHANNELIZING LINE OF THE SIDE NEAREST THE FIRE HYDRANT. SEE FIGURE 4.3-4.
  - STREETS WITH CONTINUOUS TWO-WAY TURN LANE: MARKER SHOULD BE PLACED 6 INCHES FROM THE EDGE OF THE PAINTED YELLOW BARRIER LINE ON THE SIDE NEAREST THE FIRE HYDRANT. SEE FIGURE 4.3-5.
  - MARKER SHALL BE BLUE FOR WATER OR PURPLE FOR RECLAIMED WATER.

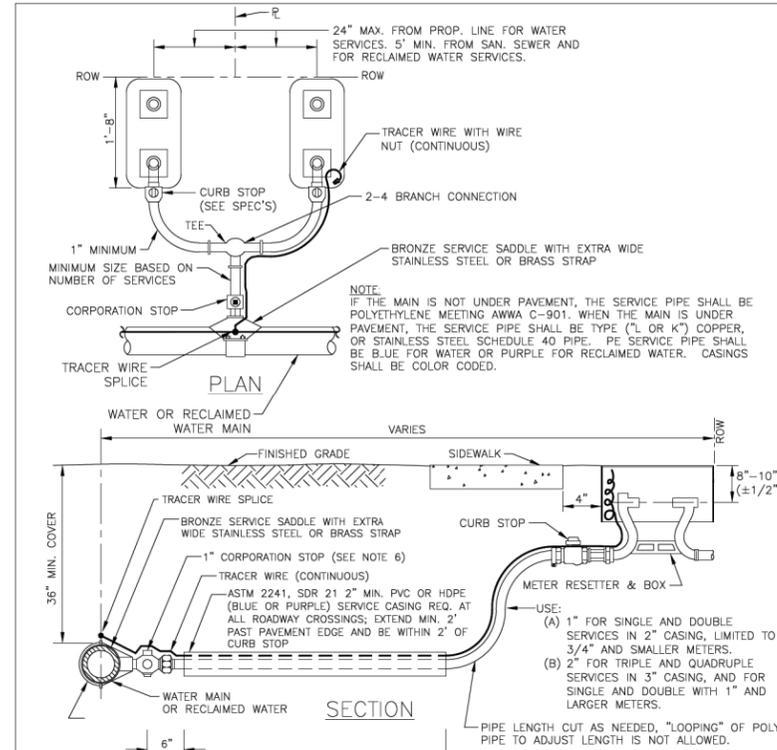
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		HYDRANT LOCATION MARKERS - BLUE (RPMs)	UW-6
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



NOTES:

- ALL DEAD-END WATER MAINS REQUIRE A BLOW-OFF AT THE END, WHETHER TEMPORARY OR PERMANENT.
- BLOW-OFF VALVE ASSEMBLIES, METER BOXES, AND/OR AUTOMATED FLUSHING DEVICES SHALL NOT BE LOCATED IN DRIVEWAYS OR SIDEWALKS, AND SHALL BE INSTALLED AS CLOSE TO THE LOT LINES AS POSSIBLE.
- DEAD-END PUBLIC MAINS, WITH MORE THAN A 4-DAY WATER VOLUME TURN-OVER RATE, SHALL REQUIRE A COUNTY-METERED, PRIVATELY OWNED & MAINTAINED AUTOMATIC FLUSHING SYSTEM TO BE INSTALLED WITH AN APPROVED METER BOX/LID, COUNTY METER, AND AN AUTOMATED FLUSHING DEVICE. THE DEVELOPMENT SHALL COORDINATE WITH MANATEE COUNTY TO OBTAIN THE NECESSARY PERMITS AND MAINTAIN THE SYSTEM THROUGHOUT THE LIFE OF THE DEVELOPMENT. THE DEVELOPMENT SHALL BE RESPONSIBLE FOR THE PROPOSED DEVELOPMENT WATER USAGE. THE FLUSHING DEVICE AND ASSOCIATED ITEMS SHALL BE REMOVED. ALL COSTS ASSOCIATED WITH THE FLUSHED WATER SHALL BE THE RESPONSIBILITY OF THE DEVELOPMENT.
- WHEN EXTENDING A WATER MAIN, REMOVE ALL ITEMS RELATING TO THE BLOW-OFF ASSEMBLY AND INSTALL A NEW GATE VALVE (SIZED FOR WATER); ALL ITEMS SHALL BE RETURNED TO THE COUNTY, UNLESS OTHERWISE NOTED.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		2" BLOW-OFF ASSEMBLY	UW-8
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



- NOTES:
- ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPIGOT ENDS.
  - METER BOXES & RESETTERS ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS. WITH PRIOR APPROVAL BY COUNTY, METER BOXES WITH LOCKABLE LIDS MAY BE LOCATED IN SIDEWALKS.
  - "WM" OR "RWM" TO BE IMPRESSED INTO THE NEWLY POURED CONCRETE CURB ALONG WITH DISTANCE IN FEET TO THE METER. IF NO CURB, INSTALL A BLUE DISC WITH "WM" OR A PURPLE DISC WITH "RWM" AND A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (IN FEET) FROM THE DISC TO THE METER.
  - COLOR CODED TRACER WIRE SHALL BE INSTALLED WITH WATER AND RECLAIMED MAIN AND ALL SERVICES. SERVICE WIRE SHALL BE CONNECTED TO THE TRACER WIRE ALONG THE MAIN, ON DOUBLE SERVICES, WHEN SECOND METER IS OVER 8 FT APART. TWO TRACER WIRES SHALL BE INSTALLED; ONE FOR EACH METER.
  - WATER AND RECLAIMED WATER SERVICE LINES TO BE 5' MINIMUM FROM SEWER SERVICE PIPES.
  - FOR 2" SERVICES REPLACE CORPORATION STOP WITH 2" RESILIENT WEDGE FIP GATE VALVE W/BOX, LID & TAG.
  - WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE ROW IS ONE FOOT (CUL-DE-SAC W/MEDIAN) A 10-FOOT-WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
  - TEMPORARY RESIDENTIAL USE CAN BE PROVIDED BY CONTACTING THE UTILITY CUSTOMER SERVICE. SEE DETAIL UW-19.
  - SERVICE TUBING SHALL NOT BE CRIMPED OR KINKED TO RE-ADJUST CURB STOP LOCATION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL SERVICE CONNECTION	UW-21
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

SCALE	AS NOTED		
DESIGNED BY	HLM		
DRAWN BY	OMC		
CHECKED BY	HLM		
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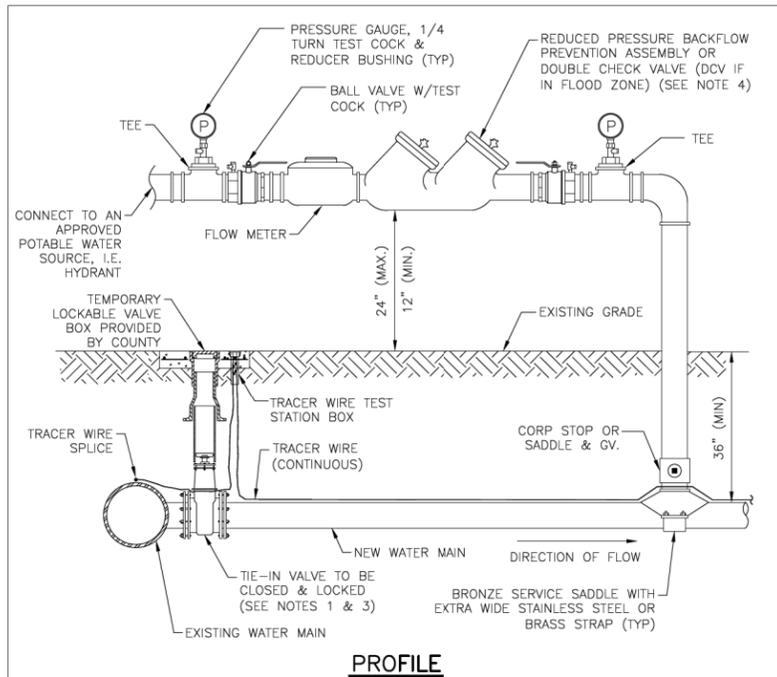
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UTILITY DETAILS  
(5 OF 6)

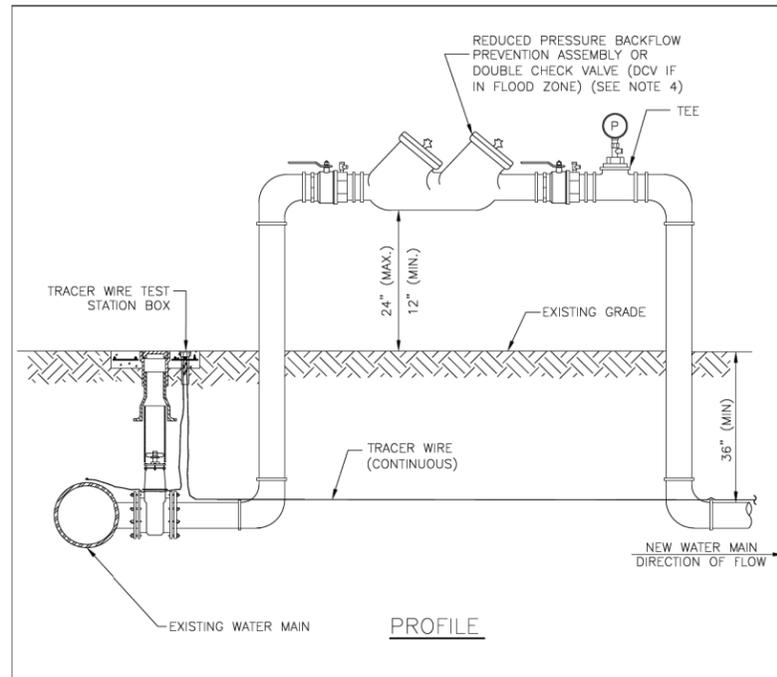
SHEET  
NO.  
U-11



**PROFILE**

- NOTES:**
- FOR TIE-IN VALVE, SEE DETAIL UW-3 FOR TAPPING SLEEVE VALVE AND UW-2 FOR GATE VALVE.
  - CORPORATION STOP CONNECTIONS TO WATER MAINS SHALL BE AT A SUFFICIENT DISTANCE FROM NEW TAPPING SLEEVE & VALVE (TIE-IN VALVE). ALL CORPORATION STOP TAPS SHALL BE PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP DIAMETERS (WHICHEVER IS LARGER) FROM THE NEW TIE-IN VALVE (TAPPING VALVE & SLEEVE). SIZE-ON-SIZE TAPS ARE NOT ALLOWED. A CUT-IN TEE SHALL BE USED.
  - IF THE EXISTING WATER MAIN IS LOCATED UNDER PAVEMENT OR CLOSE TO THE ROADWAY, BOTH JUMPER CORPORATION STOPS MAY CONNECT TO THE NEW WATER MAIN LOCATED OUTSIDE OF THE PAVEMENT. AN ADDITIONAL GATE VALVE SHALL BE INSTALLED AND THE VALVE MAY BE LOCATED AT THE ROW LINE. PIPING AND APPURTENANCES BETWEEN THE EXISTING MAIN AND ISOLATION VALVE AND JUMPER SHALL BE DISINFECTED BY SPRAYING OR SWABBING.
  - BACKFLOW PREVENTION ASSEMBLY SHALL BE STRUCTURALLY SUPPORTED.
  - THE TIE-IN VALVE SHALL REMAIN CLOSED AND THE LOCKABLE VALVE BOX SHALL BE LOCKED BY MANATEE COUNTY. THE TIE-IN VALVE SHALL REMAIN CLOSED AND LOCKED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY THE FDEP AND ALL OTHER PERTINENT AGENCIES. AFTER CLEARANCE IS OBTAINED, THE LOCKABLE VALVE BOX SHALL BE REMOVED, RETURNED TO THE COUNTY, AND REPLACED WITH A STANDARD VALVE BOX.
  - IN THE EVENT THE LOCKED TIE-IN VALVE MUST BE OPENED, THE VALVE SHALL ONLY BE OPERATED BY MANATEE COUNTY PERSONNEL.
  - SEE DETAIL UW-24 FOR ADDITIONAL JUMPER CONNECTION NOTES.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION-HYDRANT AVAILABLE	UW-23A
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



**PROFILE**

- NOTES:**
- FOR TIE-IN VALVE, SEE DETAIL UW-3 FOR TAPPING SLEEVE VALVE AND UW-2 FOR GATE VALVE.
  - CORPORATION STOP CONNECTIONS TO WATER MAINS SHALL BE AT A SUFFICIENT DISTANCE FROM NEW TAPPING SLEEVE & VALVE (TIE-IN VALVE). ALL CORPORATION STOP TAPS SHALL BE PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP DIAMETERS (WHICHEVER IS LARGER) FROM THE NEW TIE-IN VALVE (TAPPING VALVE & SLEEVE). SIZE-ON-SIZE TAPS ARE NOT ALLOWED. A CUT-IN TEE SHALL BE USED.
  - IF THE EXISTING WATER MAIN IS LOCATED UNDER PAVEMENT OR CLOSE TO THE ROADWAY, BOTH JUMPER CORPORATION STOPS MAY CONNECT TO THE NEW WATER MAIN LOCATED OUTSIDE OF THE PAVEMENT. AN ADDITIONAL GATE VALVE SHALL BE INSTALLED AND THE VALVE MAY BE LOCATED AT THE ROW LINE. PIPING AND APPURTENANCES BETWEEN THE EXISTING MAIN AND ISOLATION VALVE AND JUMPER SHALL BE DISINFECTED BY SPRAYING OR SWABBING.
  - BACKFLOW PREVENTION ASSEMBLY SHALL BE STRUCTURALLY SUPPORTED.
  - SEE DETAIL UW-24 FOR ADDITIONAL JUMPER CONNECTION NOTES.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION - NO HYDRANT AVAILABLE	UW-23B
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- A 2-INCH MINIMUM TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE POTABLE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS WITH THE FOLLOWING EXCEPTIONS:
    - PROJECTS THAT INCLUDE A PERMANENT BACKFLOW PREVENTER AT THE RIGHT-OF-WAY WHICH IS ADJACENT TO THE EXISTING WATER MAIN;
    - PROJECTS THAT INCLUDE NEW WATER MAINS THAT ARE LESS THAN OR EQUAL TO 18 LINEAR FEET IN LENGTH; OR
    - OTHER PROPOSED CASES THAT ARE APPROVED BY MANATEE COUNTY AND THE CONSTRUCTION DRAWINGS SPECIFICALLY STATE THAT A TEMPORARY JUMPER CONNECTION IS NOT REQUIRED.
  - A TEMPORARY JUMPER SHALL BE USED AND BE CONNECTED TO AN APPROVED POTABLE WATER SOURCE (E.G., EXISTING FIRE HYDRANT, EXISTING MAIN, EXISTING SERVICE TAP OR TANK TRUCK, ETC.) AS SHOWN IN THE STANDARD TEMPORARY JUMPER DETAIL UW-23A OR UW-23B.
  - A TEMPORARY JUMPER SHALL BE USED FOR FILLING, FLUSHING AND FOR DISINFECTION OF ANY NEW MAIN OF ANY SIZE. THE TEMPORARY JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER THE FILLING, FLUSHING, TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) HAS BEEN OBTAINED.
  - THE LOCATION AND ORIENTATION OF TEMPORARY JUMPERS ASSOCIATED WITH CONNECTIONS TO EXISTING WATER MAINS THAT ARE LOCATED UNDER THE ROADWAY PAVEMENT SHALL BE APPROVED ON A CASE-BY-CASE BASIS.
  - PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, LATEST EDITION. UNLESS APPROVED OTHERWISE, THE TAPPING SLEEVE, AND EXTERIOR OF THE EXISTING MAIN TO BE TAPPED, PIPING WITHIN THE JUMPER, AND NEW PIPING SHOWN ON STANDARD TEMPORARY JUMPER DETAIL UW-23A OR UW-23B SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION 4.6 OF AWWA C651.
  - THE JUMPER SHALL INCLUDE A FLOW METER TO ENSURE THAT THE FLOW FROM THE SUPPLY SOURCE IS AT A CONSTANT MEASURED RATE WHILE CHLORINATING THE NEW MAIN. THE CHLORINE CONCENTRATION SHALL BE MEASURED AT REGULAR INTERVALS TO ENSURE THAT IT IS FED AT A CONSTANT RATE OF NOT LESS THAN 25 MILLIGRAMS PER LITER (MG/L) OF FREE CHLORINE.
  - THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI IN THE NEW MAINS CONTINUOUSLY AFTER DISINFECTION AND UNTIL FDEP CLEARANCE LETTER IS OBTAINED.
  - ALL TEMPORARY BACKFLOW PREVENTION ASSEMBLY OR "JUMPERS" UTILIZED DURING PIPELINE CONSTRUCTION MUST SHOW CERTIFICATION THAT THEY HAVE BEEN TESTED ANNUALLY AND PASSED ACCORDING TO THE FLORIDA BUILDING CODE, PLUMBING SECTION, CHAPTER 3, SECTION 312.9.1, 312.9.2, CHAPTER 6, SECTION 608, AND RESOLUTION R87-125. ANNUAL CERTIFICATION MUST BE VALID AT TIME OF INSTALLATION AND PROVIDED TO THE MANATEE COUNTY INSPECTOR UPON REQUEST.
  - ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION ASSEMBLY, FLOW METER, FITTINGS, VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  - TEMPORARY JUMPER SIZE DEPENDS ON THE SITUATION: JUMPERS LARGER THAN 2-INCHES MAY BE USED FOR FLUSHING PURPOSES OR IF PARTIAL FIRE PROTECTION IS REQUIRED DURING INITIAL CONSTRUCTION, AS DETERMINED BY THE ENGINEER OF RECORD OR FIRE DEPARTMENT.
  - PRIOR TO REMOVAL OF THE TEMPORARY JUMPER, THE NEWLY-CONSTRUCTED WATER SYSTEM SHALL HAVE RECEIVED CLEARANCE FROM THE FDEP.
  - AFTER RECEIPT OF CLEARANCE FOR USE BY FDEP, MANATEE COUNTY, AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION AND COMPLETE THE WATER MAIN. ALL CORPORATION STOPS LEFT-IN-PLACE ARE TO BE CLOSED AND PLUGGED WITH 2-INCH BRASS.
  - IF THE TEMPORARY JUMPER IS LOCATED WITHIN A STANDARD PIPE LENGTH AWAY FROM THE PROPOSED TIE-IN AND A SINGLE STANDARD LENGTH OF PIPE IS USED FOR COMPLETING THE CONNECTION, THEN THE COUNTY WILL PERFORM A VISUAL INSPECTION AND A SEPARATE HYDROSTATIC TEST MAY NOT BE REQUIRED.
- IF MULTIPLE LENGTHS OF PIPES ARE USED TO COMPLETE THE CONNECTION, THEN A SEPARATE HYDROSTATIC TEST WILL BE REQUIRED. THE HYDROSTATIC TEST SHALL BE PERFORMED BETWEEN THE PROPOSED TIE-IN VALVE AND THE FIRST DOWNSTREAM VALVE FROM THE TEMPORARY JUMPER LOCATION.

<b>MANATEE COUNTY</b> PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION NOTES	UW-24
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

SCALE AS NOTED		DATE 11/2020		<b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER HEATHER MANGANIELLO FL. LICENSE NO. 68385	<b>UTILITY DETAILS</b> (6 OF 6)	SHEET NO. U-12
DESIGNED BY HLM		PROJECT NO. 6092460					
DRAWN BY OMC							
CHECKED BY HLM							
No.	REVISIONS	DATE	BY				
		11/20/2020					

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