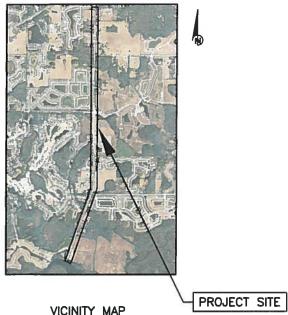


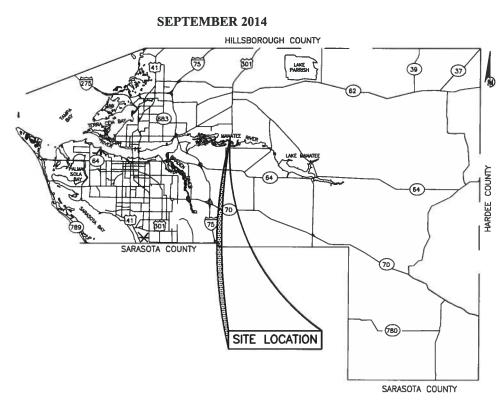
# MANATEE COUNTY, FL FORT HAMER ROAD PHASE II US 301 TO FUTURE FORT HAMER BRIDGE

323-6054764



## PROJECT DESCRIPTION

PROJECT CONSISTS OF WIDENING THE EXISTING ROAD FROM 22' TO 24' WITH 8' SHOULDERS, RELOCATING EXISTING ROADSIDE DITCHES, AND ADDING A SIDEWALK ON THE WEST SIDE OF THE ROAD



## **SIGNALIZATION PLANS**

**BID SET** 

NO.	INDEX OF SHEETS
T-1	COVER SHEET
T-2	GENERAL NOTES & LEGEND
T-3	PAY ITEM NOTES & QUANTITIES
T-4	SIGNALIZATION PLAN
T-5	SIGNALIZATION DETAILS

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Know what's below Call before you dig

SHEET T-1

## GENERAL NOTES

1. AT LEAST FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MANATEE COUNTY TRAFFIC DESIGN DIVISION:

MR. PAUL VILLALUZ, P.E., PTOE MANATEE COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC DESIGN DIVISION 2101 47TH TERRACE EAST BRADENTON, FL 34203 (941) 749-3500, EXT. 7859

2. THE CONTRACTOR MUST NOTIFY THE TRAFFIC ENGINEERING DIVISION AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE TO SCHEDULE THE FINAL INSPECTION. WHEN CONSTRUCTION IS COMPLETE, PROVIDE THREE (3) HARD-COPY SETS OF "AS BUILT" PLANS AND ONE COMPACT DISK OF RECORD DRAWINGS IN ADOBE ACROBAT (.PDF) AND AUTOCAD (.DWG) FORMAT TO:

MANATEE COUNTY TRAFFIC ENGINEERING DIVISION: ATTN: MR. VISHAL S. KAKKAD, P.E., PTOE 2101 47TH TERRACE EAST BRADENTON, FL 34203 (941) 749-9500, EXT. 7812

THE RECORD DRAWINGS MUST BE RECEIVED 48 HOURS PRIOR TO SCHEDULING THE FINAL INSPECTION.

- MAINTAINING AGENCY: MANATEE COUNTY TRAFFIC OPERATIONS DIVISION 2904 12TH STREET COURT STREET EAST, BRADENTON, FLORIDA 34208
- WHEN FDOT AND MANATEE COUNTY SPECIFICATIONS DIFFER. THE MORE STRINGENT SPECIFICATION WILL TAKE PRECEDENCE, MANATEE COUNTY TRAFFIC SPECIFICATIONS SHALL BE OBTAINED BY THE CONTRACTOR FROM THE PROJECT MANAGEMENT DIVISION.
- THE CONTRACTOR SHALL HAVE AN I.M.S.A. CERTIFIED LEVEL II (ELECTRONICS OR ELECTRICAL TECHNICIAN) ON THE JOB SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. ALL SIGNAL INSTALLATION TECHNICIANS SHALL HAVE A MINIMUM I.M.S.A. LEVEL I CERTIFICATION. CERTIFICATION OF ALL TECHNICIANS SHALL BE PROVIDED TO THE COUNTY PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL SUBMIT CONCRETE COMPRESSIVE STRENGTH TEST RESULTS FOR CONCRETE POLE FOUNDATIONS TO THE TRAFFIC ENGINEERING DIVISION FOR REVIEW AND APPROVAL. THE TESTING LAB SHALL BE CURRENTLY APPROVED BY THE FDOT.
- 7. RESULTS OF FIELD TESTS SHALL BE MADE AVAILABLE TO THE COUNTY TRAFFIC ENGINEER AND PROJECT INSPECTOR IN WRITTEN FORM. A QUALIFIED CONTRACTOR'S REPRESENTATIVE SHALL BE PRESENT AT THE CONDITIONAL ACCEPTANCE INSPECTION OF THE CONTROLLER ASSEMBLY. THE QUALIFICATIONS OF THE REPRESENTATIVE SHALL INCLUDE:
- A) COMPLETE FAMILIARITY WITH ALL SYSTEMS ELEMENTS INCLUDING CONTROLLERS, COORDINATING UNITS, SYSTEM CLOCKS AND SYSTEM COMMUNICATIONS ELEMENTS. THE REPRESENTATIVE SHALL BE QUALIFIED TO INPUT AND RECALL ALL CONTROLLER AND SYSTEM TIMING
- 8. THE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY PERFORMING ALL NECESSARY WORK UNDER THEIR POWER LINES, SUCH AS THE INSTALLATION OF SPAN WIRE. SIGNAL CABLE, FIBERGLASS INSULATORS AND SIGNAL POLES. CONTRACTOR SHALL NOTIFY THE POWER COMPANY AT LEAST THREE (3) FULL BUSINESS DAYS PRIOR TO THE INSTALLATION OF THIS EQUIPMENT.
- 9. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT ALL SIGNAL EQUIPMENT IS INSTALLED AS SHOWN IN THE PLANS WITHIN EXISTING RIGHT-OF-WAY.
- 10. THE CONTRACTOR, IN COMMUNICATION WITH THE ENGINEER, SHALL COORDINATE UTILITY RELOCATION IF NECESSARY.
- 11. IN THE EVENT THAT R/W OR IRRESOLVABLE UTILITY CONFLICTS PROHIBIT POLE PLACEMENT ACCORDING TO THE PLANS, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS ENGINEER AND THE ENGINEER OF RECORD (EOR) TO OBTAIN A DESIGN VARIATION
- 12. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES.
- 13. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
- 14. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1-800-432-4770) AND SHALL ALSO NOTIFY THOSE UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.

- 15. THE CONTRACTOR SHALL HAND DIG THE FIRST 48 INCHES (4 FEET) OF THE HOLE FOR THE POLE FOUNDATION OR CONDUIT RUN WHERE UTILITIES ARE IN CLOSE PROXIMITY.
- 16. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED.
- 17. THE TYPE OF EQUIPMENT USED IN THE INSTALLATION OF MAST ARMS/FOUNDATIONS AND SIGNS/FOUNDATIONS, SHALL MEET THE FOLLOWING REQUIREMENTS:
- 1) OVERHEAD LINES SHALL STAY IN PLACE BOTH VERTICALLY AND HORIZONTALLY.
- 2) CONTRACTOR SHALL MEET ALL APPLICABLE OSHA REQUIREMENTS. ANY COST ASSOCIATED WITH THE TYPE OF EQUIPMENT REQUIRED FOR THIS INSTALLATION IS INCLUDED IN THE RELATED PAY ITEM.
- 18. UPON PROJECT COMMENCEMENT, THE SIGNAL CONTRACTOR SHALL BE AVAILABLE TO RESPOND TO ALL SIGNAL RELATED MALFUNCTIONS AND POWER OUTAGES. THE CONTRACTOR SHALL MAINTAIN AN ADEQUATE REPAIR INVENTORY OF EQUIPMENT TO CORRECT ALL TRAFFIC SIGNAL MALFUNCTIONS AND MOT RELATED PHASING AND TIMING ISSUES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A QUALIFIED SIGNAL TECHNICIAN WHO CAN RESPOND WITHIN A MAXIMUM OF TWO (2) HOURS, WITH AVAILABILITY 24 HOURS A DAY, 7 DAYS A WEEK. FAILURE TO MEET TIME REQUIREMENTS SHALL GIVE THE COUNTY, AT ITS DISCRETION, THE RIGHT TO REQUEST ASSISTANCE FROM THE MANATEE COUNTY SHERIFF'S DEPARTMENT TO CONTROL TRAFFIC FOR THE PERIOD OF TIME UNTIL THE CONTRACTOR RESPONDS AND MAKES THE NEEDED REPAIRS. THE COST FOR THE MANATEE COUNTY SHERIFF'S OFFICE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 19. GROUNDING: ALL GROUND ROD 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 GRADE. MARK GROUND ROD LOCATIONS WITH PERMANENT MARKER SUCH AS AN EPOXY STICKER LOCATED ON THE NEAREST CURB AND PROVIDE AS-BUILT DRAWINGS WITH THE LOCATION OF GROUND RODS MARKED. GROUNDING CONDUCTOR SHALL BE #6 OR LARGER INSULATED COPPER. EQUIPMENT SHALL NOT BE PLACED IN SERVICE UNTIL THE ASSOCIATED GROUNDING SYSTEM HAS BEEN INSPECTED AND APPROVED BY A MEMBER OF THE MANATEE COUNTY TRAFFIC OPERATIONS STAFF.
- 20. SUBMIT STRUCTURAL AND SHOP DRAWINGS OF ALL EQUIPMENT TO MANATEE COUNTY FOR REVIEW AND APPROVAL PRIOR TO ORDERING EQUIPMENT:

MR. KENT D. BONTRAGER, P.E. PROJECT MANAGER MANATEE COUNTY PUBLIC WORKS 1022 26TH AVENUE EAST BRADENTON, FL 34208-3916 (941) 708-7450, EXT. 7331

21. UPON PASSING THE FINAL-INSPECTION. THE CONTRACTOR SHALL SEND A WRITTEN REQUEST TO MANATEE COUNTY REQUESTING 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.

MANATEE COUNTY TRAFFIC OPERATIONS DIVISION ATTN: MR. AARON BURKETT 2904 12TH STREET COURT EAST BRADENTON, FL 34208 (941) 708-7509, EXT. 7509

## CONDUIT LEGEND

LV = SIGNAL LOW VOLTAGE CONDUIT (INCLUDES VID CABLE)

SP = SPARE CONDUIT

## **LEGEND**

TSB  EXISTING SIGNAL PULL BOX



PROPOSED SIGNAL PULL BOX EXISTING PEDESTRIAN POLE



PROPOSED PEDESTRIAN POLE

Manatee PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34286

LEGEND

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NOTES

GENERAL

SIGNALIZATION

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PROJECT # 323-6054764

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## PAY ITEM NOTES

USE 2" HDPE SDR 11 CONDUIT FOR FUTURE FIBER OPTIC INTERCONNECT CABLE. USE A MINIMUM 2" DIAMETER SCHEDULE 40 PVC CONDUIT FOR ALL SIGNAL, PEDESTRIAN, AND DETECTION FUNCTIONS, INSTALL CONDUIT UNDER PROPOSED ROADWAY AND/OR SIDEWALK PRIOR TO INSTALLATION OF ROADWAY BASE AND SURFACE OR CONCRETE, MEASUREMENT IS FOR STRAIGHT LINE HORIZONTAL DISTANCE BETWEEN CENTERS OF PULL BOXES, CABINETS, POLES, ETC. IN LINEAR FEET REGARDLESS OF THE LENGTH OR NUMBER OF CONDUITS INSTALLED, NO ADDITIONAL PAYMENT WILL BE MADE FOR MULTIPLE RUNS OF CONDUIT WITHIN A TRENCH, MULTIPLE RUNS ARE LABELED ON THE PLANS.

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

ALL FIBER OPTIC CABLE CONDUIT INSTALLED BY TRENCHING METHOD SHALL HAVE WARNING TAPE INSTALLED IN THE TRENCHLINE ONE FOOT BELOW FINISH GRADE DIRECTLY OVER ANY INSTALLED CABLE AND CONDUIT RUN. THE WARNING TAPE SHALL COMPLY WITH SECTION 630-J OF THE FOOT STANDARD SPECIFICATIONS, COLOR SHALL BE ORANGE AS REQUIRED BY AMERICAN PUBLIC WORKS ASSOCIATION (APWA) UNIFORM COLOR CODE, AND HAVE CAUTION: FIBER OPTIC CABLE BURIED BELOW PERMANENTLY PRINTED ON THE TAPE'S SURFACE.

THIS PAY ITEM INCLUDES A LOCATE WIRE SYSTEM. THE LOCATE WIRE SYSTEM INCLUDES LOCATE WIRE. WIRE GROUNDING UNITS (WGU), GROUND RODS, AND ALL MISCELLANEOUS ITEMS NEEDED FOR A COMPLETE AND ACCEPTED LOCATE SYSTEM.

## 2. 632-7-1:

THE CONTRACTOR SHALL VERIFY THE SIGNAL CABLE COLOR CODE WITH MANATEE COUNTY PRIOR T ORDERING. ALL WIRE SHALL ADHERE TO MANATEE COUNTY SPECIFICATIONS. USE A MINIMUM OF 7 CONDUCTOR SIGNAL CABLE FOR SIGNAL HEADS AND PEDESTRIAN HEADS.

USE POLYMER CONCRETE CONSTRUCTION PULL BOXES WITH POLYMER CONCRETE COVER. 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 FEET FROM EDGE OF PAVEMENT. IF IN OR ADJACENT TO SIDEWALK, PULL BOXES SHALL BE FLUSH WITH SIDEWALKS OR OTHER CONCRETE, OTHERWISE 1.5 INCHES ABOVE EXISTING GRADE. THE TOP OF THE LID SHALL HAVE THE FOLLOWING IDENTIFICATION PERMANENTLY CAST INTO THEIR TOP SURFACE IN STAMPED RAISED LETTERS. ACCORDING TO THE APPLICATION FOR WHICH IT IS TO BE USED: "MANATEE COUNTY TRAFFIC SIGNAL" FOR SIGNALIZED INTERSECTION APPLICATIONS; APPROPRIATELY SIZE EACH PULL BOX SO THE FIBER COMMUNICATION AND/OR INTERCONNECT CABLE DO NOT EXCEED MANUFACTURER'S RECOMMENDED BENDING RADIUS. STANDARD PULL BOX DIMENSIONS SHALL BE 17"X30"X12". FIBER OPTIC SPLICE BOX DIMENSIONS SHALL BE 30"X60"X48".

### 646-1-11:

USE LOCKING COLLARS WHEN MOUNTING PEDESTRIAN SIGNAL HEADS TO PEDESTRIAN PEDESTALS. USE LOCKING COLLARS WHEN MOUNTING ALUMINUM PEDESTRIAN POLES TO PEDESTRIAN PEDESTAL BASES. USE BREAKAWAY ALUMINUM SQUARE BASE ASSEMBLIES WITH ALUMINUM DOORS FOR PEDESTRIAN PEDESTALS. INSIDE DIAMETER OF PEDESTALS SHALL BE FOUR INCHES (4").

## 5. 653-191:

PEDESTRIAN SIGNAL HEADS SHALL BE 16" INTERNATIONAL SYMBOL. FDOT APPROVED LED COUNTDOWN TYPE. PUSHBUTTON LOCATION AND HEIGHT SHALL BE COMPLIANT WITH ADA & MUTCO.

## 665-1-11:

USE PEDESTRIAN BUTTON SIGH FTP-688-06. STREET NAME SHALL BE IN ACCORDANCE WITH THE STREET NAMES SHOWN ON THE SIGNALIZATION PLAN SHEETS.

THE FIELD MANAGED ETHERNET SWITCH SHALL BE A RUGGEDCOM MODEL NUMBER RS900-HI-D-C2-C2-00. THE SWITCH SHALL BE FURNISHED WITH ALL NECESSARY SYSTEM COMPONENTS FOR INTEGRATION INTO THE MANATEE COUNTY ETHERNET-BASED FIBER OPTIC NETWORK.

	TABULATION OF QUANTITIES	S			
PAY ITEM NO.	DESCRIPTION		QUANTITY		TOTAL
		UNIT	PLAN	FINAL	
630-2-11	CONDUIT (F&I) (OPEN TRENCH)	LF	156	156	156
630-2-12	CONDUIT (F&I) (DIRECTIONAL BORE)	LF	335	335	335
632-7-1	SIGNAL CABLE (F&I) (NEW OR RECONSTRUCTED INT)	PI	1	1	1
635-2-11	PULL AND SPLICE BOX (F&I) (17"X30")	EA	7	7	7
646-1-11	ALUMINUM SIGNALS POLE (F&I) (PEDESTAL)	EA	8	8	8
650-1-311	TRAFFIC SIGNAL, 12" (F&I) (3 SECT, 1 WAY) (ALUM) (LED)	AS	2	2	2
653-191	PED SIGNALS (F&I) (LED COUNTDOWN) (1 DIRECTION)	AS	8	8	8
665-1-11	PEDESTRIAN DETECTOR (F&I) (STANDARD)	EA	8	8	8
690-20	SIGNAL PEDESTRIAN ASSEMBLY REMOVAL	EA	6	6	6
690-90	CONDUIT & CABLING WITHIN INTERSECTION, REMOVE	PI	1	1	1
690-100	SIGNAL EQUIPMENT MISCELLANEOUS, REMOVE	PI	1	1	1



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

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**QUANTITIES** 

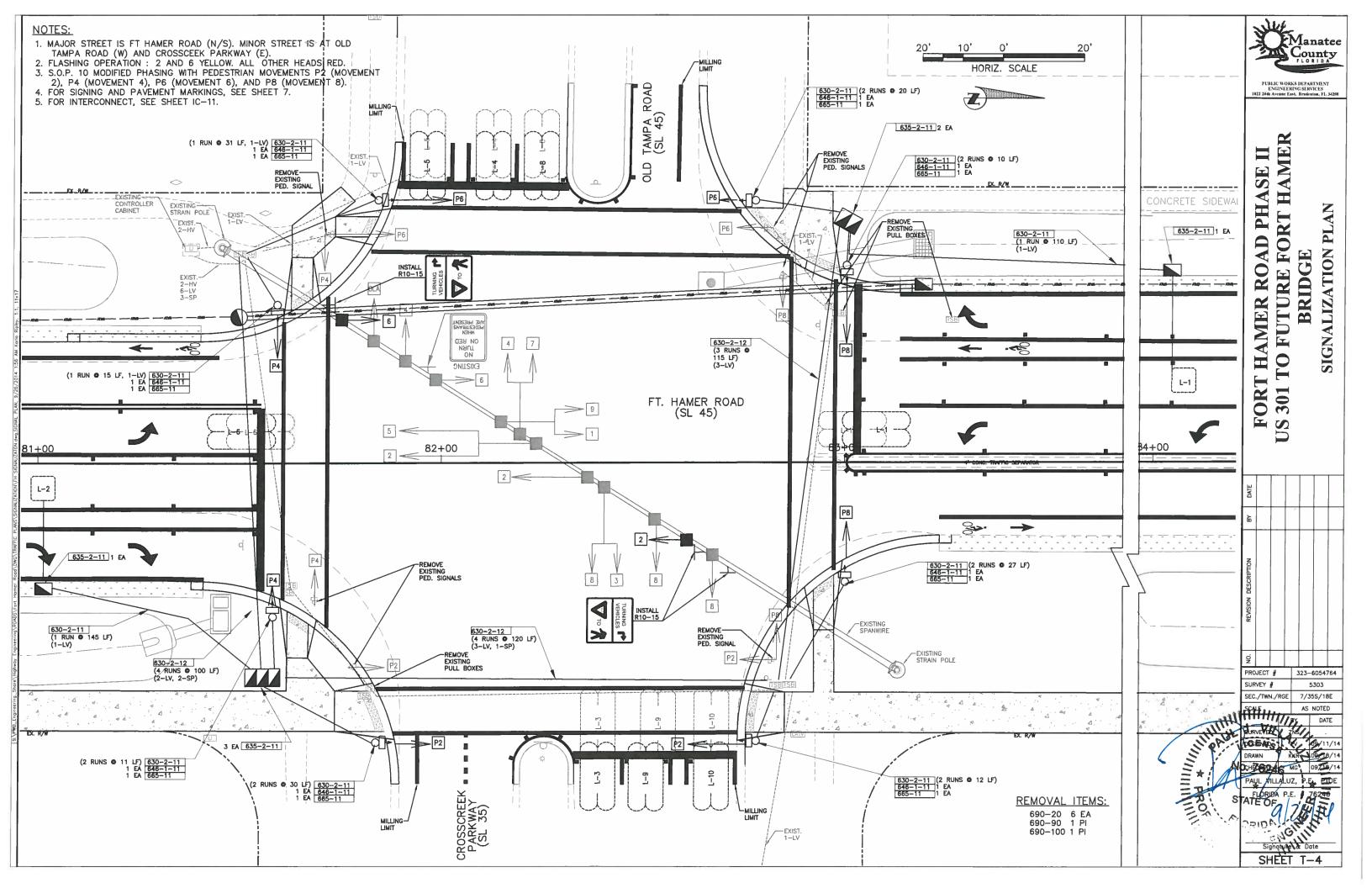
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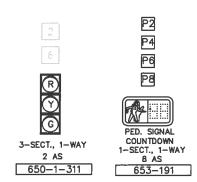
PROJECT # 323-6054764 SURVEY # SEC./TWN./RGE 7/35S/18E

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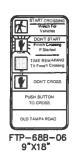
SHEET T-3



## SIGNAL DISPLAY DETAILS





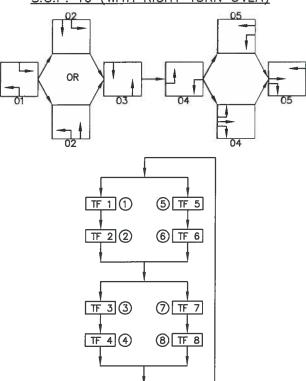




**CONTROLLER OPERATIONS:** 

- 1. MAJOR STREET IS FORT HAMER ROAD (MOVEMENTS 1,2,5 & 6)
  AND MINOR STREET IS OLD TAMPA ROAD (MOVEMENTS 3, 4, 7, 8 & OLA)
  2. SPECIAL SIGNAL OPERATION PLAN NO. 10.
  3. EXISTING TIMING TO REMAIN.

## S.O.P. 10 (WITH RIGHT TURN OVLA)



DETECTORS FOR LOOPS							
LOOP	NO. OF LOOPS	NO. OF NEW DETS.	DELAY TIME (SEC)				
L-1	1	01	SBL				
L-2	1	02	NB				
L-3	1	03	WBL				
L-4	1	04	EB				
L-5	1	OLA 04	EBR	8			
L-6	1	05	NBL				
L-7	1	06	SB				
L-8	1	07	EBL				
L-9	1	08	WB				
L-10	1	OB	WBR	8			

## NOTE:

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

CONTROLLER TIMINGS									
ТІМІ	TIMING FUNCTION								
	MOVEMENT NUMBER	1	2	3	4	5	6	7	8
	MINIMUM GREEN	7	20	7	7	7	20	7	7
	EXTENSION	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
FUNCTION	MAXIMUM GREEN 1	20	55	20	30	30	55	20	35
	MAXIMUM GREEN 2								
	YELLOW CLEARANCE	4.5	4.5	3.0	4.5	4.5	4.5	4.5	4.5
TIMING	ALL RED	3.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0
F	PEDESTRIAN WALK		10		10		10		10
	PED. CLEARANCE		33		25		28		29
	RECALL		MIN				MIN		

## Manatee County

# TO FUTURE FORT HAMER PHASE FORT HAMER ROAD BRIDGE US 301

SIGNALIZATION DETAILS

NO. 7820 DESIGNED PAUL VILLAND. PAUL VILLAND. PEC., PTOE

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Signature & P.

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