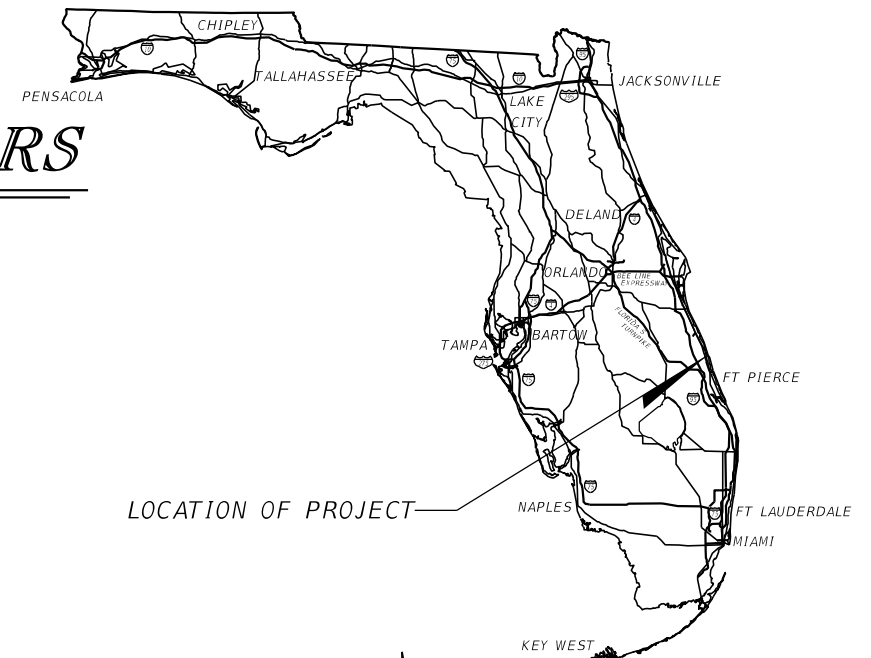


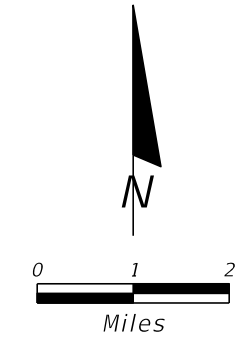
INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

CONTRACT PLANS

37TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS IRC PROJECT No. 2001



LOCATION OF PROJECT



PLANS PREPARED BY:
Kimley»Horn

445 24TH STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100
PROJECT NUMBER: 147613001
REGISTRY NUMBER: 35106

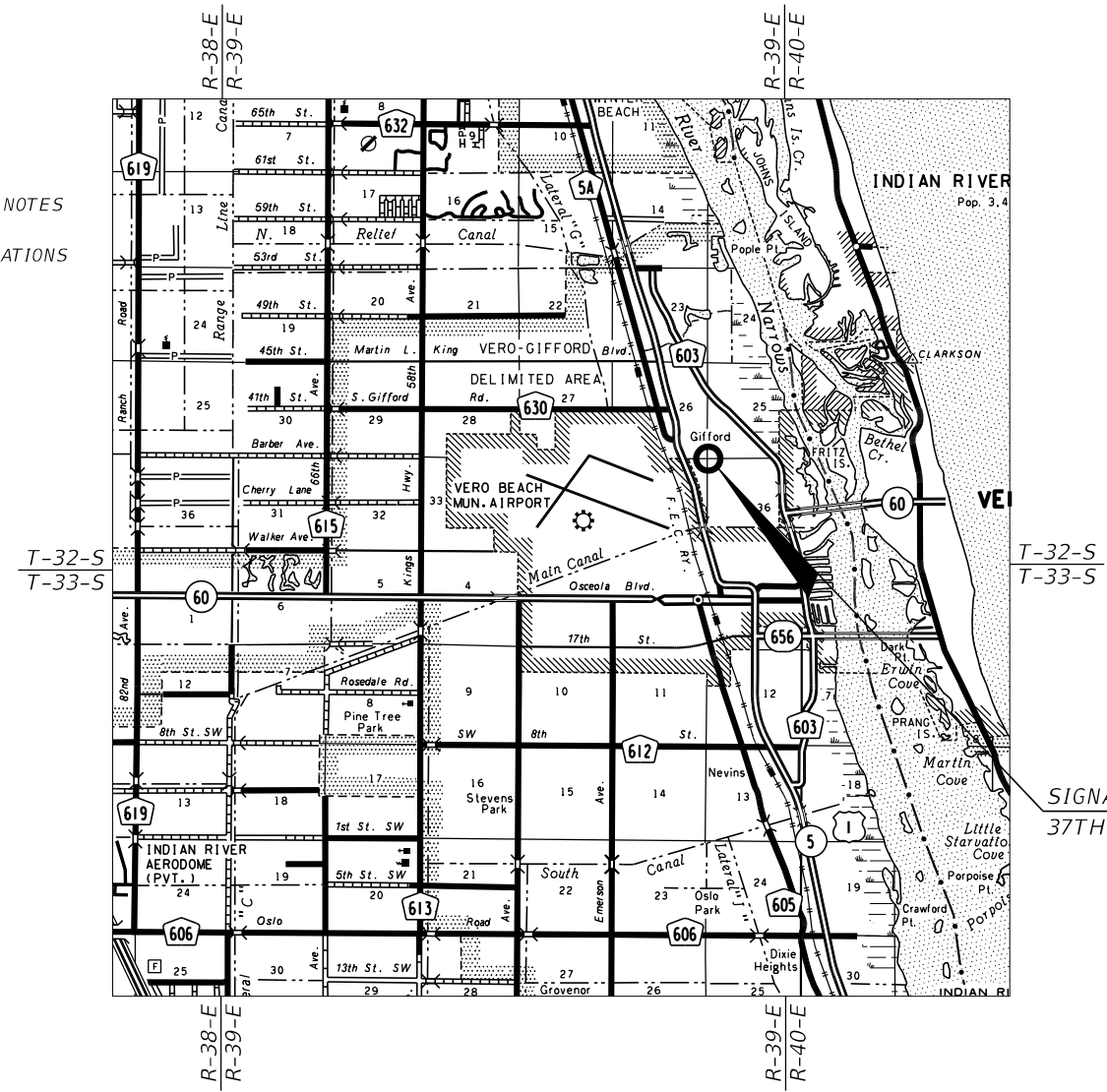
GOVERNING STANDARDS AND SPECIFICATION
FLORIDA DEPARTMENT OF TRANSPORTATION
FY 2020-21 STANDARD PLANS
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED JANUARY 2020, AND
INDIAN RIVER COUNTY STANDARD SPECIFICATIONS
AS AMENDED BY CONTRACT DOCUMENTS.

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

**100% PLAN
SUBMITTAL
APRIL 2022**

INDEX OF ROADWAY PLANS

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SIGNAL LOCATION
37TH STREET & 11TH DRIVE

PREPARED FOR



DEPARTMENT OF PUBLIC WORKS
RICHARD B. SZPYRKA P.E., DIRECTOR

ROADWAY PLANS
ENGINEER OF RECORD: MICHAEL C. FORMAN

P.E. NO.: 85367

SHEET NO.
1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C. I.R.CO. Proj. No. 2001

GENERAL NOTES

- 1) ALL STATIONS AND OFFSETS ARE REFERENCED TO BASELINE OF CONSTRUCTION.
- 2) THE EXACT LOCATIONS OF PROPOSED SWALES, BACK SLOPE LINES AND LIMITS OF CONSTRUCTION WILL BE IN ACCORDANCE WITH THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 3) ALL EXISTING DRAINAGE STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE NOTED.
- 4) ALL DISTURBED R/W SHALL BE SODDED WITHIN THREE DAYS OF FINAL GRADING.
- 5) THE CONTRACTOR WILL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT NOW EXISTING.
- 6) ITEMS IN CONFLICT WITH CONSTRUCTION SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE UNLESS THE ITEMS ARE SPECIFIED TO BE REUSED ON THE PROJECT.
- 7) DRIVEWAYS THAT ARE DISTURBED ARE TO BE RECONSTRUCTED TO THEIR ORIGINAL OR BETTER CONDITION, UNLESS OTHERWISE STATED ON PLANS.
- 8) STAGING AND MATERIAL STORAGE SHALL NOT BE CONDUCTED ON ABUTTING PRIVATE PROPERTY WITHOUT APPROVAL FROM THE OWNER.

UTILITY NOTES

- 9) CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED.
- 10) THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES, UNDERGROUND UTILITIES, OR NEAR CANAL BANKS.
- 11) EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
- 12) THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION AND ALL NON-PREDETERMINED UTILITY RELOCATIONS TO BE COORDINATED WITH UTILITY OWNERS.
- 13) THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR TWO (2) BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVE CAN BE PRESENT.
- 14) PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 556, UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY.
- 15) THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- 16) THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE CALL (1-800-432-4770) FOR FIELD LOCATIONS THREE (3) BUSINESS DAYS BEFORE DIGGING NEAR UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT ANY UTILITY OWNER(S) THAT MAY NOT BE A "SUNSHINE" MEMBER.

17) KNOWN UTILITIES:

COMPANY	FACILITIES	CONTACT	TELEPHONE #
AT&T	TELEPHONE	LUKE FOLKERTS	(407) 496-6041
CITY OF VERO BEACH	WATER AND SEWER	DAVID GAY	(772) 978-4870
COMCAST CABLE	CATV & FIBER	JOHN SCOTT STRAHN	(561) 227-3417
CITY GAS COMPANY OF FLORIDA	GAS	HOLLY COOMBS	(321) 638-3419
FLORIDA POWER & LIGHT	ELECTRIC	ROB MORRIS TRICIA D'ANNUNZIO	(772) 223-4215 (561) 904-3560
INDIAN RIVER COUNTY PUBLIC WORKS	SIGNALIZATION	JOHN ANKENY	(772) 226-1563

- 18) INDIAN RIVER COUNTY TRAFFIC ENGINEERING HAS UNDERGROUND CONDUIT FOR TRAFFIC SIGNAL INTERCONNECTIONS IN THIS AREA AS WELL AS OTHER TRAFFIC SIGNAL EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT SUNSHINE STATE ONE CALL SYSTEM AT 1-800-432-4770 FOR LOCATIONS OF THIS EQUIPMENT AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION.

SURVEY NOTES

- 19) B.M. DATA IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD -'88).
- 20) ANY GEODETIC MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, NOTIFY:

 GEODETIC INFORMATION CENTER
 ATTN: MARK MAINTENANCE SECTION N/CG-162
 6001 EXECUTIVE BLVD.
 ROCKVILLE, MARYLAND 20852
 TELEPHONE NO. (301) 443-8319
- 21) EXISTING SECTION CORNERS AND ¼ SECTION CORNERS, AND OTHER LAND MARKERS OR MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION ARE TO BE REFERENCED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND RESET AFTER CONSTRUCTION USING A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA.

MAINTENANCE OF TRAFFIC NOTES

- 22) THE MAINTENANCE OF TRAFFIC FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FDOT INDEX NUMBERS (102-XXX SERIES) AND THESE DOCUMENTS; THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. DEPARTMENT OF TRANSPORTATION, FHWA), SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES.
- 23) ANY TEMPORARY LANE CLOSURES PROPOSED BY THE CONTRACTOR SHALL BE INITIATED NO EARLIER THAN 9:00 AM AND MUST BE REMOVED NO LATER THAN 4:00 PM.
- 24) CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DETAILED MOT PLANS PREPARED BY A FLORIDA LICENSED ENGINEER TWO WEEKS PRIOR TO THE START OF CONSTRUCTION TO THE INDIAN RIVER COUNTY TRAFFIC DIVISION FOR APPROVAL.

ABBREVIATIONS:

ADJ.	ADJUST	AH	AHEAD
BK	BACK	C&G	CURB & GUTTER
CONC.	CONCRETE	CONST.	CONSTRUCT
DIR.	DIRECTIONAL	ESMT.	EASEMENT
EOP	EDGE OF PAVEMENT	EXIST.	EXISTING
LT	LEFT	PC	POINT OF CURVATURE
PT	POINT OF TANGENCY	PAVT.	PAVEMENT
PGL	PROFILE GRADE LINE	PROP.	PROPOSED
RT	RIGHT	R/R	RAIL ROAD
R/W	RIGHT OF WAY	SHLDR.	SHOULDER
SWK.	SIDEWALK	TRANS.	TRANSITION
TYP.	TYPICAL	VAR.	VARIES
X-SLOPE	CROSS-SLOPE		

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

MICHAEL C. FORMAN, P.E.
 P.E. LICENSE NUMBER 85367
 445 24th STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4100
 REGISTRY NUMBER: 35106

INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS
 57TH STREET & 11TH DRIVE
 SIGNALIZATION IMPROVEMENTS

GENERAL NOTES

SHEET NO.

2

INDIAN RIVER COUNTY - TRAFFIC SIGNAL GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD); FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) LATEST EDITION; FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS (STANDARD INDEX(ES)) LATEST EDITION, ALL SUPPLEMENTS THERETO; NATIONAL ELECTRIC CODE; INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS; AND ANY OR ALL INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION REQUIREMENTS.
2. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT IS INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION (IRCTED) (772) 226-1547. ALL TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT WHEN USING PAY ITEM SERIES: 632, 634, 635, 660, 670, 684 AND 685 FOR THIS CONTRACT SHALL BE COMPATIBLE WITH IRCTED'S CENTRAL COMPUTER NETWORK SYSTEM. PRIOR TO ANY PURCHASING OF THE ABOVE PRODUCTS, ENSURE THEY HAVE BEEN APPROVED FOR SYSTEM COMPATIBILITY BY THE MAINTAINING AGENCY.
3. IRCTED SHALL BE NOTIFIED AT (772) 226-1547 AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO ANY WORK BEING PERFORMED AT A SIGNALIZED LOCATION IN ORDER TO PROPERLY TRANSFER MAINTENANCE RESPONSIBILITIES.
4. THE CONTRACTOR SHALL DELIVER ALL REMOVED TRAFFIC SIGNAL EQUIPMENT, EXCEPT CONCRETE STRAIN POLES, TO IRCTED LOCATED AT 4548 41ST STREET, VERO BEACH, FL 32967 (772) 226-3460. THE COST OF DELIVERY TO IRCTED SHALL BE INCLUDED IN THE REMOVAL OF THE RELATED SIGNAL PAY ITEM. THE CONTRACTOR SHALL CONTACT THE IRCTED SEVEN (7) FULL BUSINESS DAYS PRIOR TO THE DELIVERY OF ANY REMOVED EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR CONCRETE STRAIN POLE DISPOSAL AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL BE ADVISED THAT OTHER PROJECTS MAY BE UNDER CONSTRUCTION CONCURRENTLY WITH THIS PROJECT AND THAT COORDINATION EFFORTS MAY BE NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE CONSTRUCTION SCHEDULE AND FOR THE AMOUNT OF COORDINATION REQUIRED. THE COST SHALL BE INCLUDED IN THE BID.
6. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER RELATED WORK ACTIVITY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
7. THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE-CALL AT 1-800-432-4770 FOR LOCATIONS OF UTILITIES WITHIN THE AREA(S) OF CONSTRUCTION FOR THIS PROJECT A MINIMUM OF TWO (2) FULL BUSINESS DAYS PRIOR TO ANY DIGGING OR EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT ANY UTILITY OWNER(S) THAT MY NOT BE A "SUNSHINE"MEMBER.
8. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND PROTECTION, REPAIR AND/OR REPLACEMENT OF ALL UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT. EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ANY REQUIRED UTILITY RELOCATIONS.
9. THE CONTRACTOR SHALL NOTIFY ALL INVOLVED UTILITIES TWO (2) FULL BUSINESS DAYS IN ADVANCE, BEFORE SETTING TRAFFIC SIGNAL POLES OR PERFORMING ANY DIGGING OR OTHER EXCAVATION WORK, SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR. KNOWN UTILITY COMPANIES INCLUDE:

COMPANY	FACILITIES	CONTACT	TELEPHONE NUMBER
AT&T	TELEPHONE	LUKE FOLKERTS	(407) 496-6041
CITY GAS COMPANY OF FLORIDA	GAS	DOROTHY HAMILTON	(321) 638-3412
FLORIDA POWER & LIGHT (INDIAN RIVER)	ELECTRIC	ROB MORRIS	(772) 223-4215
INDIAN RIVER COUNTY PUBLIC WORKS	SIGNALIZATION	JOHN ANKENY	(772) 226-1563
INDIAN RIVER COUNTY	WATER & SEWER	JESSE ROLAND	(772) 226-1636
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE COMPANY PROVIDING ELECTRICAL POWER TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. IF REQUIRED, FEE SHALL BE REFLECTED IN THE CONTRACTOR'S BID UNIT PRICE FOR ELECTRICAL POWER SERVICE ASSEMBLY.
11. THE CONTRACTOR SHALL COORDINATE AND FIELD VERIFY LOCATION(S) OF THE ELECTRIC SERVICE POINT PRIOR TO INSTALLING CONDUIT, DISCONNECT SWITCH, AND PULL BOXES.
12. (IF APPLICABLE) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
13. THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH THE APPLICABLE GUIDELINES SET FORTH IN FDOT DESIGN STANDARD INDEXES 600 THROUGH 660; THE MUTCD; AND SECTION 102 OF THE STANDARD SPECIFICATIONS.
14. THE CONTRACTOR SHALL MAKE ALL VIDEO DETECTORS INSTALLED AS PART OF THE PROJECT FULLY OPERATIONAL IN ACCORDANCE WITH THEIR ASSOCIATED ISOLATED INTERSECTION SIGNAL TIMING CHART PRIOR TO THE ACTIVATION OF THE SIGNAL.
15. THE CONTRACTOR SHALL VERIFY ALL SIGNAL POLE ELEVATIONS AND LOCATIONS INCLUDING POSSIBLE UTILITY CONFLICTS PRIOR TO PROCURMENT. THE CONTRACTOR SHALL VERIFY THAT ALL SIGNAL POLE ELEVATIONS WILL MEET MUTCD, FDOT AND INDIAN RIVER COUNTY REQUIREMENTS FOR LOW POINT OF CLEARANCE. ALL SIGNAL ASSEMBLIES SHALL HAVE A VERTICAL CLEARANCE OF 17.5 FEET MINIMUM AND 19 FEET MAXIMUM FROM THE BOTTOM OF THE ASSEMBLY TO THE ROAD.
16. UNDER NO CIRCUMSTANCES SHALL ENERGIZED SIGNAL CABLE BE PLACED IN THE SAME CONDUIT OR PULL BOX AS VIDEO DETECTION CABLE OR COMMUNICATION.
17. ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT LEGIBLE, WEATHERPROOF TAGS THAT ARE SECURELY ATTACHED TO EACH CABLE. THE TAGGING SYSTEM PROPOSED SHALL BE SUBMITTED FOR APPROVAL WITH THE OTHER EQUIPMENT SUBMITTALS REQUIRED FOR THIS PROJECT.
18. THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION UNLESS SPECIFIED OTHERWISE.
19. TRAFFIC SIGNAL ACCEPTANCE TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
20. THERE WILL BE A 90 DAY WARRANTY PERIOD SUBJECT TO THE REQUIREMENTS CONTAINED IN ARTICLE (SECTIONS 611-5 THROUGH 611-7.3) "CONTRACTOR'S WARRANTY PERIOD FOR SIGNAL INSTALLATIONS"AS FOUND IN FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
21. THE CONTRACTOR SHALL PROVIDE FOUR COPIES OF MARKED-UP (AS-BUILT) CONSTRUCTION PLANS, ALSO A COPY OF SHOP DRAWING AND A COPY OF MAST ARM SPECIFICATION AND ANY/ALL APPROVED SHOP DRAWINGS AT THE TIME OF SIGNAL CONDITIONAL ACCEPTANCE INSPECTION BY THE MAINTAINING AGENCY.
22. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH SECTION 603 OF THE STANDARD SPECIFICATIONS: LATEST EDITION

MICHAEL C. FORMAN, P.E.
445 24TH STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100
23. THE CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL INSPECTION TO THE MAINTAINING AGENCY. (ALLOW TWO (2) WEEKS FOR SIGNAL INSPECTION).
24. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOUR (4) PORTABLE CHANGEABLE (VARIABLE) MESSAGE SIGNS (PCMS) FOR A PERIOD OF TWO WEEKS. THE PCMS WILL BE LOCATED AT AN APPROPRIATE DISTANCE IN ADVANCE OF THE APPROACHES TO THE NEW SIGNALIZED INTERSECTION AS SPECIFIED BY THE MAINTAINING AGENCY'S ENGINEER. THE PCMS WILL BE PROVIDED ONE (1) WEEK PRIOR TO THE SCHEDULED ACTIVATION TO FULL COLOR OPERATION AND SHALL REMAIN IN PLACE FOR ONE (1) WEEK FOLLOWING ACTIVATION. COST OF FURNISHING PCMS TO BE INCLUDED UNDER PAY ITEM NO. 102-1 MAINTENANCE OF TRAFFIC.

REVISIONS						Kimley»Horn	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION GENERAL NOTES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				3
						MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106			

INDIAN RIVER COUNTY - TRAFFIC SIGNAL GENERAL NOTES

25. IN ACCORDANCE WITH FDOT STANDARDS & SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE THE ASSOCIATED TRAFFIC SIGNAL MANUFACTURER WARRANTIES FOR THE ASSOCIATED MATERIALS AND/OR EQUIPMENT PRIOR TO THE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL.

26. PRIOR TO ACTIVATION THE PCMS SIGN SHALL BE:
 (PANEL ONE LINE 1) "TRAFFIC"
 (PANEL ONE LINE 2) "SIGNAL"
 (PANEL ONE LINE 3) "WILL BE"
 (PANEL TWO LINE 1) "ACTIVE"
 (PANEL TWO LINE 2) "ON DAY"
 (PANEL TWO LINE 3) "MONTH XX"

SUBSTITUTION FOR THE WORD "DAY" SHALL BE AS FOLLOWS:
 SUNDAY AS "SUN"
 MONDAY AS "MON"
 TUESDAY AS "TUES"
 WEDNESDAY AS "WED"
 THURSDAY AS "THUR"
 FRIDAY AS "FRI"
 SATURDAY AS "SAT"

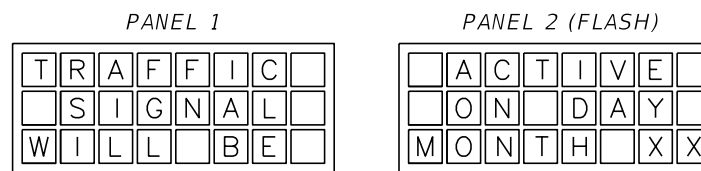
SUBSTITUTION FOR THE WORD "MONTH" SHALL BE AS FOLLOWS:
 JANUARY AS "JAN"
 FEBRUARY AS "FEB"
 MARCH AS "MAR"
 APRIL AS "APR"
 MAY AS "MAY"
 JUNE AS "JUN"
 JULY AS "JUL"
 AUGUST AS "AUG"
 SEPTEMBER AS "SEP"
 OCTOBER AS "OCT"
 NOVEMBER AS "NOV"
 DECEMBER AS "DEC"

SUBSTITUTION FOR THE WORD "XX" SHALL BE AS FOLLOWS:
 THE NUMERICAL DAY OF THE MONTH, FROM ONE (1) TO THIRTY-ONE (31). THE DATES LESS THAN TEN (10) SHALL BE PRECEDED BY A ZERO (0); EXAMPLE: "JAN 03" FOR JANUARY 3RD.

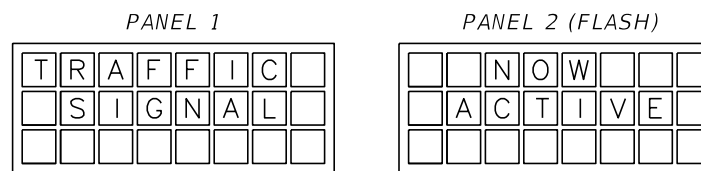
27. AFTER THE TURN-ON, THE PCMS SHALL BE CHANGED TO:
 (PANEL ONE LINE 1) "TRAFFIC"
 (PANEL ONE LINE 2) "SIGNAL"
 (PANEL TWO LINE 1) "NOW"
 (PANEL TWO LINE 2) "ACTIVE"

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

PRIOR TO SIGNAL ACTIVATION



AFTER SIGNAL ACTIVATION




28. THE ENGINEER OR CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL ACTIVATION (TURN-ON) TO THE MAINTAINING AGENCY. THE MAINTAINING AGENCY WILL SCHEDULE THE SIGNAL ACTIVATION A MINIMUM OF SEVEN (7) DAYS AFTER NOTIFICATION THAT THE SIGNAL HAS BEEN PLACED FLASHING MODE AND INSPECTIONS BY MAINTAINING AGENCY FORCES HAVE BEEN COMPLETED.

29. THE CONTRACTOR SHALL BE PRESENT AND SHALL CONDUCT THE TURN-ON TO FULL COLOR OPERATION IN THE PRESENCE OF THE MAINTAINING AGENCY'S ENGINEER. NO ACTIVATIONS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS OR WEEKENDS UNLESS OTHERWISE APPROVED BY THE MAINTAINING AGENCY'S ENGINEER. ANY PROPOSED OR NECESSARY SCHEDULE CHANGE DURING THE SEVEN (7) DAYS PRIOR TO SCHEDULED TURN-ON WILL BE AT THE DETERMINATION AND DISCRETION OF THE MAINTAINING AGENCY'S ENGINEER.

30. UPON COMPLETION AND FINAL ACCEPTANCE OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION BY INDIAN RIVER COUNTY, THE SIGNALS AND EQUIPMENT SHALL BE MAINTAINED BY IRCTED.

31. WHEN IRCTED DETERMINES THAT THE NEED FOR A TRAFFIC SIGNAL IS CRITICAL TO THE PUBLIC WELFARE, EARLY TURN-ON OF THE SIGNAL MAY BE REQUIRED BEFORE THE COMPLETION OF THE CONTRACT. IF THIS NEED ARISES, IRCTED MAY ASSUME THE RESPONSIBILITY FOR MAINTENANCE AND LIABILITY, OR NEGOTIATE WITH THE CONTRACTOR FOR MAINTENANCE AND LIABILITY, FOR SUCH A SIGNAL. NEW SIGNALS SHALL NOT BE PLACED ON FULL COLOR OPERATION UNTIL THE DATE OF INSPECTION EXCEPT AS STATED ABOVE. NEW SIGNALS SHALL BE FLASHED NO LESS THAN A WEEK OR MORE THAN TWO WEEKS PRIOR TO THE INSPECTION. SIGNAL HEADS MUST BE BAGGED WITH BURLAP OR TURNED BACK UNTIL THIS TIME.

REVISIONS						 MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION GENERAL NOTES	SHEET NO.
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INDIAN RIVER COUNTY – TRAFFIC SIGNAL GENERAL NOTES
REV 7.0 2-11-22

A. POWER SERVICE

1. POWER SERVICES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD INDEX NO. 17504, 17736
2. SERVICE BREAKER BOX SHALL BE SQUARE-D MODEL #QO24L70RB, OR APPROVED EQUIVALENT.
3. POWER SERVICES ARE TO BE 120/240 VAC WITH TRIPLEX SERVICE DROP WIRE WITH TWO BLACK AND ONE WHITE CABLE FROM SERVICE DISCONNECT TO POWER SERVICE CONNECTION POINT.
4. ALL ABOVE GROUND CONDUIT SHALL BE HD GALVANIZED OR ALUMINUM.
5. MAST ARM POWER SERVICES SHALL BE MOUNTED ON A STUB POLE.
6. UNDERGROUND POWER SERVICE SHALL HAVE A LOAD PULL BOX AND A SEPARATE LINE PULL BOX AT THE SERVICE POINT.
7. CONCRETE STRAIN POLE INSTALLATIONS SHOULD HAVE THE POWER SERVICE MOUNTED ON THE STRAIN POLE.

B. TRAFFIC SIGNAL CONTROLLER

1. SHALL BE COMPATIBLE WITH ECONOLITE SYSTEM SOFTWARE.
2. SHALL HAVE INTERNAL TIME-BASED CAPABILITIES
3. SHALL HAVE INTERNAL RAILROAD PREEMPTION WITH IMMEDIATE RETURN TO COORDINATION.

C. TRAFFIC SIGNAL COMMUNICATIONS INTERCONNECT

NOTE: VARIANCE TO COMMUNICATION INTERCONNECT DUE TO DESIGN CRITERIA WOULD REQUIRE PRIOR APPROVAL FROM INDIAN RIVER COUNTY.

1. TWO 2" CONDUITS SHALL BE INSTALLED WITH ALL INTERCONNECT RUNS.
2. PULL BOXES CONTAINING INTERCONNECT ARE TO BE INSTALLED AT NO MORE THAN 1000 FOOT INTERVALS MARKED "TRAFFIC SIGNAL" (FDOT DESIGN STANDARD INDEX 17700).
3. FIBER OPTIC INTERCONNECT RUNS SHALL HAVE A SLACK/SPLICE BOX AT ALL SIGNALIZED INTERSECTIONS MARKED "FIBER OPTICS". SLACK/SPLICE BOXES SHALL CONTAIN A MINIMUM OF 100 FEET OF FIBER OPTIC CABLE SLACK (FDOT DESIGN STANDARD 635-001) AND SHALL BE LOCATED AT NO MORE THAN 1/2-MILE INTERVALS.
4. FIBER OPTIC CABLE SHALL BE 96-FIBER SINGLE MODE. A #14 AWG (OR IRC-APPROVED ALTERNATIVE) TRACE WIRE SHALL BE INSTALLED WITH THE FIBER RUN.
5. THE CONNECTION FROM THE SLACK/SPLICE BOX TO THE SIGNAL CABINET (PIG TAIL) SHALL BE A 12-FIBER SINGLE MODE CABLE. FIBER IN THE CABINET SHALL BE TERMINATED IN A FIBER OPTIC TERMINAL PANEL. THE FIBER CABLE SHALL NOT BE RUN BEHIND SHELVING.
6. IN THE CABINET, DATA CONVERSION WILL BE ACCOMPLISHED WITH EXTREME NETWORKS MODEL 15W 4-10/100P, 2-10/100T, 2-SFP GIGABIT ETHERNET SWITCH OR IRC-APPROVED EQUIVALENT.
7. RADIO LINK SHOULD BE ECONOLITE INTUICOM RADIO ACCESS POINT OR REMOTE STATION. INCLUDES MOUNTING HARDWARE, PoE INJECTOR OR APPROVED EQUIVALENT.

D. TRAFFIC SIGNAL MAST ARM

1. MAST ARMS SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS INDEX NO. 17743, 17745.
2. ALL MAST ARM POLES SHALL HAVE REMOVALBE L.E.D. TUBE WITH RA-D ENDS HEAD LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA. EACH LUMINAIRE SHALL BE PHOTO CELL CONTROLLER AND NOT POWERED THROUGH SIGNAL CABINET. WIRING SHALL BE #10 AWG OR LARGER SIZE AWG. LUMINAIRE CASING SHALL HAVE AN I.R.C. SUPPLIED STICKER ADHEARED TO THE CASING.
3. MAST ARM POLES ARE TO HAVE A TERMINAL COMPARTMENT IN PLACE OF A HAND HOLE, PER STANDARD 649-031.
4. MAST ARM MOUNTING HEIGHT (MEASUREMENT UB INDEX NO. 17743) SHALL BE 19-FEET FOR HORIZONTAL AND 20-FEET FOR VERTICAL MOUNTED SIGNALS, IN THE ABSENCES OF GEOMETRIC ABNORMALTIES.
5. ALL MAST ARMS SHALL BE GALVANIZED STEEL WITH FACTORY FINISHED U.S. GOVERNMENT AMS-STD 595 #14066 (HIGHWAY GREEN) IN ACCORDANCE WITH FDOT.
6. EACH TERMINAL COMPARTMENT SHALL HAVE A 20 CIRCUIT AWG#14 TERMINAL BLOCK.
7. MAST ARMS ARE TO HAVE L.E.D. INTERNALLY-ILLUMINATED SINGLE-SIDED STREET NAME SIGNS WITH LOCAL STREET NAMES AND 1" WHITE BORDER. THE SIGNS SHALL BE CONTROLLED FROM A PHOTO CELL WITH IN THE SIGNAL CABINET THE SIGNS ARE NOT TO HAVE INDIVIUALL PHOTO CELL. THE STREET NAME SIGNS ARE TO BE MOUNTED WITH FIXED BRACKETS ON THE ARM BETWEEN THE POLE AND THE FIRST TRAFFIC SIGNAL.

E. TRAFFIC SIGNAL POLES & SPAN WIRE

1. POLES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD INDEX NO. 17725.
2. STRAIN POLES SHALL HAVE L.E.D., COBRA HEAD STYLE LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA. EACH LUMINAIRE SHALL BE PHOTO CELL CONTROLLER AND NOT POWERED THROUGH SIGNAL CABINET.
3. ALL ABOVE GROUND CONDUIT SHALL BE HD GALVANIZED.
4. BOTH UPPER AND LOWER SPAN SHALL BE NO LESS THAN 3/8 INCH CABLE WIRE.
5. THE SIGNAL CABLE SHALL BE ATTACHED TO THE MESSENGER WIRE BY LASHING RODS.

F. TRAFFIC SIGNAL HEADS

1. TRAFFIC SIGNALS MOUNTED ON SPAN CABLE ARE TO BE LIGHTWEIGHT McCAIN SIGNAL, (RED SECTION TO BE ALUMINUM AND ALL OTHER SECTIONS TO BE POLY PLASTIC), 12 INCH INDICATIONS.
2. TRAFFIC SIGNALS MOUNTED ON MAST SUPPORTS ARE TO BE ALL AUMIMUM McCAIN SIGNAL 12-INCH INDICATIONS. THE MOUNTING SHALL BE HORIZONTAL USING PELCO ASTRO BRAC OR IRC-APPROVED EQUIVALENT. SPAN MOUNT SIGNALS ARE TO BE MOUNTED VERTICAL. ALL VEHICLE SIGNAL HEADS ARE TO HAVE RETRO-RELLECTIVE BACK PLATES.
3. TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH ALL L.E.D. INDICATIONS, INCLUDING ALL ARROWS AND YELLOWS.
4. TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH TUNNEL VISORS.
5. TRAFFIC SIGNALS AND ASSOCIATED ACCESSORIES, INCLUDING BUT NOT LIMITED TO BACKPLATES SHALL BE MCCAIN.
6. PEDESTRIAN SIGNALS ARE TO BE COUNT DOWN PEDESTRIAN SIGNALS WITH INTERNATIONAL-STYLE HAND/MAN (SYMBOLS) WITH FULL (NOT OUTLINE) L.E.D. INDICATIONS. EACH CORNER WILL BE FED WITH ONE SEVEN CONDUCTOR CABLE FOR PEDESTRIAN SIGNAL HEAD AND ONE FOUR CONDUCTOR CABLE FOR PEDESTRIAN DETECTOR.THESE CABLES WILL RUN FROM PEDESTRIAN SIGNAL AND DETECTOR DIRECTLY TO CONTROLLER BOX. (NO SPLICES). PEDESTRIAN DETECTOR SIGNS ARE TO BE R10-3I.

G. VIDEO DETECTORS

1. VIDEO DETECTION SYSTEM SHALL BE TRAFISENSE2 632 FLIR OR IRC-APPROVED EQUIVALENT.

H. VIDEO SURVEILLANCE


1. VIDEO CAMERAS SHALL BE AXIS Q6075-E PTZ DOME NETWORK CAMERA WITH SURGE PROTECTOR, LATEST TECHNOLOGY OR IRC-APPROVED EQUIVALENT.

I. BATTERY BACK-UP

1. BATTERY BACKUP SYSTEM IS TO BE USED ON ALL INSTALLATIONS UNLESS OTHERWISE STATED.
2. BATTERY BACKUP SHALL BE MYERS UPS SYSTEM MP2000E-TB WITH STANDING CABINET, EXTERNAL GENERATOR PLUG, ETHERNET CARD.

F:\Traffic Division\Traffic Signal Coordination\Design Info\Specifications\Source Code\IRC TRAFFIC ENGINEERING TYPICAL GENERAL NOTES FOR SIGNALIZATION IMPROVEMENTS 02-11-2022.docx

UPDATED: February 14, 2022

REVISIONS						 <small>MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106</small>	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION SPECIFICATIONS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				5

INDIAN RIVER COUNTY TYPICAL WIRING

Signal Wiring 20 Conductor				
Number	Color	Location	Phase	Comments
1	Green	Main Street	02, 06	
2	Orange	Main Street	02, 06	
3	Red	Main Street	02, 06	
4	Green/Black	Side Street	04, 08	
5	Orange/Black	Side Street	04, 08	
6	Red/Black	Side Street	04, 08	
7	Blue	Left Turn	01, 03, 05, 07	Green
8	White/Black	Left Turn	01, 03, 05, 07	Amber
9	Black/White	Left Turn	01, 03, 05, 07	Red
10	Blue/Black	Right Turn	02, 04, 06, 07	Amber
11	Black	Right Turn	02, 04, 06, 07	Green
12	White	Neutral		
13	Green/White	Spare		
14	Orange/Red	Spare		
15	Red/White	Spare		
16	Blue/White	Spare		
17	White/Red	Spare		
18	Black/Red	Spare		
19	Blue/Red	Spare		
20	Red/Green	Spare		


Pedestrian Head Wiring 7 Conductor				
Number	Color	Location	Phase	Comments
1	Green	Main Street	02, 06	Green
2	Orange	Side Street	04, 08	Green
3	Red	Main Street	02, 06	Red
4	Blue	Side Street	04, 08	Red
5	White/Black	Spare		
6	Black	Spare		
7	White	Neutral		

Pedestrian Button Wiring 4 Conductor				
Number	Color	Location	Phase	Comments
1	Green	Main Street	02, 06	Return
2	Red	Main Street	02, 06	
3	White	Side Street	04, 08	Return
4	Black	Side Street	04, 08	

Tape Color	
Direction	Color
North	Green
South	Red
East	Yellow
West	Blue

F:\Traffic Division\Traffic Signal Coordination\Design Info\Specifications\Source Code\IRC TRAFFIC ENGINEERING TYPICAL GENERAL NOTES FOR SIGNALIZATION IMPROVEMENTS 02-11-2022.docx

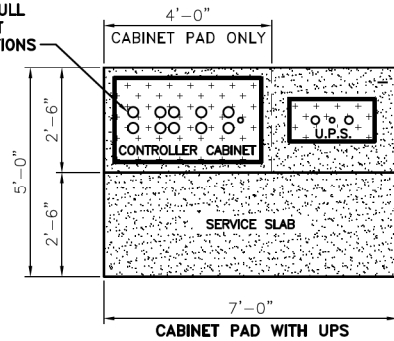
UPDATED: February 14, 2022

REVISIONS						 <small>MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106</small>	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION DETAILS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				6

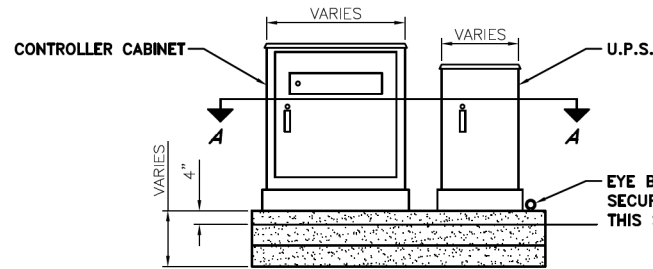
NOTES:

1. THIS DETAIL SHEET SUPPLEMENTS FDOT STANDARD PLANS INDEX 676-010.
2. LOW AREAS MAY REQUIRE A CABINET EXTENSION. VARIATIONS WILL BE NOTED ON THE SIGNAL PLAN.
3. CABINET PAD DIMENSIONS ASSUME A 26"x44" CONTROLLER CABINET AND A 16"x23" U.P.S. CONFIRM EQUIPMENT AND CABINET PAD SIZE.

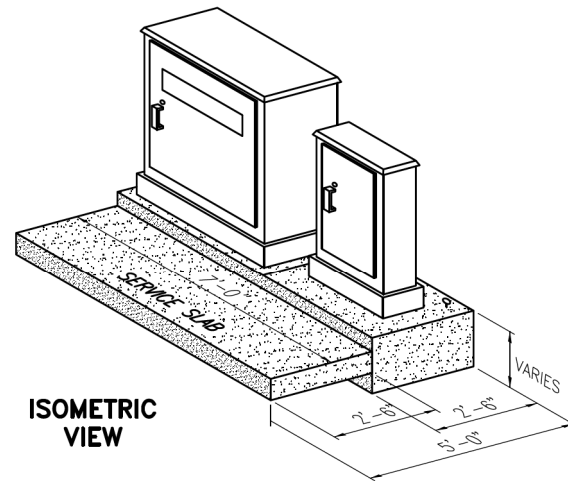
SEE STANDARD TYPICAL PULL BOX AND CONDUIT LAYOUT PLAN FOR CONDUIT LOCATIONS



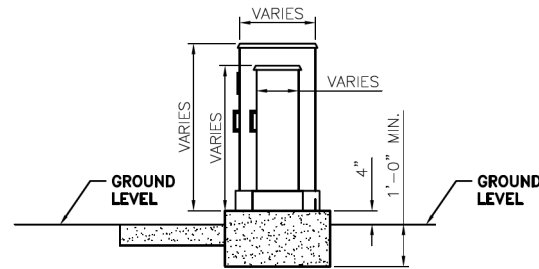
SECTION A-A & TOP VIEW OF PAD



FRONT VIEW



ISOMETRIC VIEW

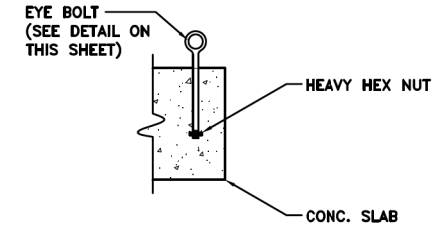


RIGHT-SIDE VIEW

GROUND MOUNT CONTROLLER CABINET NOT TO SCALE

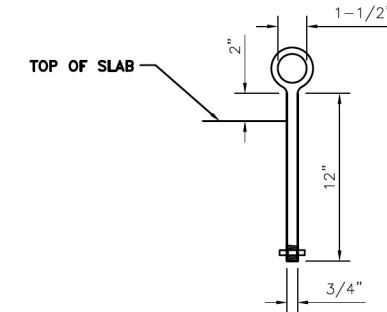
NOTES:

1. EYE BOLTS SHALL HAVE A 1-1/2" INSIDE DIAMETER AND 3/4" SHANK DIAMETER AND MEET THE REQUIREMENTS OF FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 634-2.3 HARDWARE AND FITTINGS.




STRAIGHT BOLT

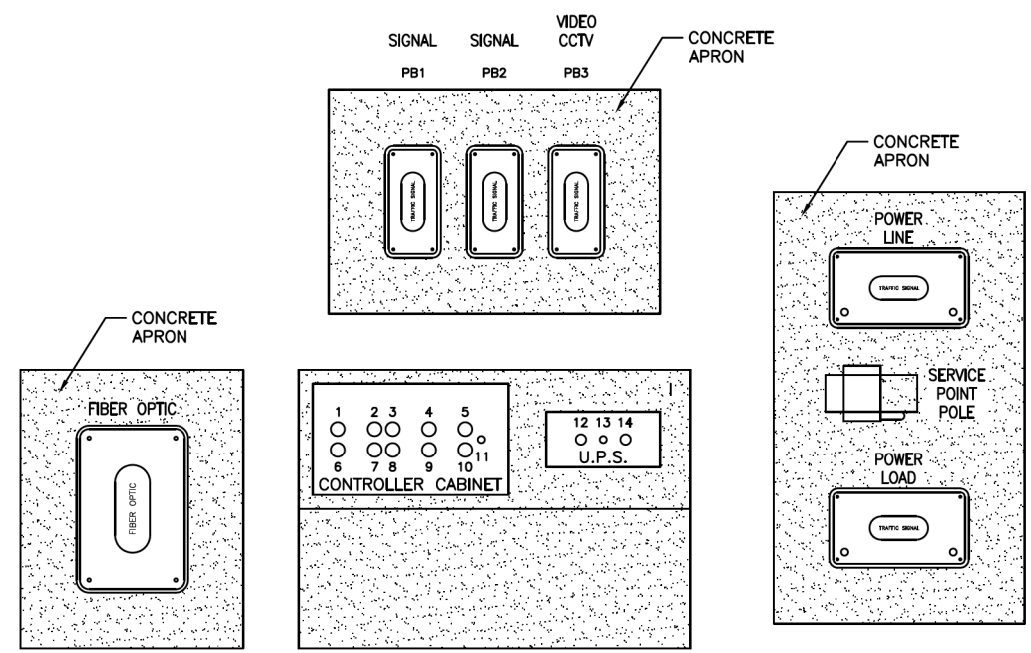
DETAIL OF STRAIGHT EYE BOLT FOR GENERATOR SECURITY NOT TO SCALE



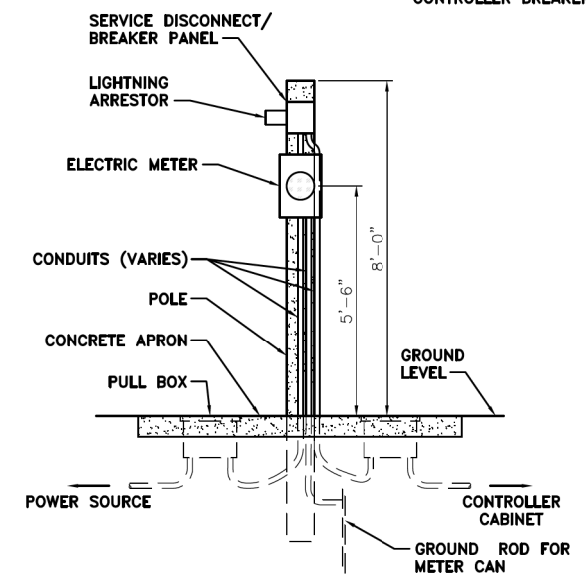
DETAIL OF STRAIGHT EYE BOLT NOT TO SCALE

No.	Revision	Date	By	INDIAN RIVER COUNTY 1801 27th STREET VERO BEACH, FL 32960 (772) 567-8000	 Department of Public Works Engineering Division	DESIGNED BY: E. FERGUSON, P.E. DRAWN BY: K. P. HANSEN APPROVED BY: E. FERGUSON, P.E.	ENGINEER OF RECORD: E. FERGUSON, P.E. FL REG. #62036 DATE: 12/1/2021	CABINET FOUNDATION	TRAFFIC STANDARD DETAILS
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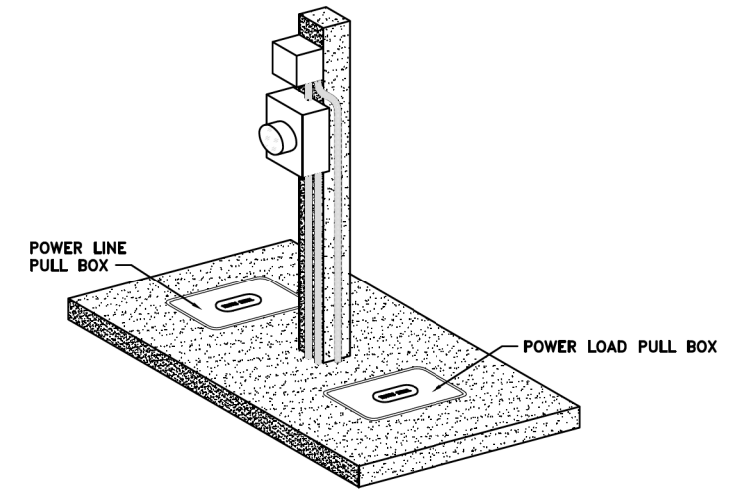
REVISIONS						 MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 37th STREET & 11th DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION DETAILS	SHEET NO. 6A
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				



**GROUND MOUNTED
CONTROLLER CABINET PAD
TOP VIEW**



FRONT VIEW



ISOMETRIC VIEW

- NOTES:**
1. SEE FDOT STANDARD PLAN 639-001 FOR SERVICE POINT POLE DETAILS.
 2. ELECTRICAL SERVICE CONNECTION TO BE SINGLE PHASE 3 WIRE 120/240 V.
 3. SERVICE DISCONNECT/BREAKER PANEL SQUARE D MODEL #Q0247L70RB OR APPROVED EQUAL.
 4. PANEL TO CONTAIN 30 AMP LUMINAIRE BREAKER AND 50 AMP CONTROLLER BREAKER.

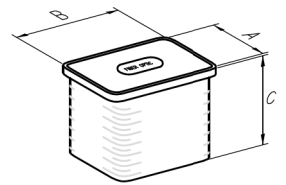
**TYPICAL PULL BOX AND
CONTROLLER CABINET CONDUIT LAYOUT
NOT TO SCALE**

**ELECTRICAL SERVICE POINT
NOT TO SCALE**

- NOTES:**
1. PULL BOX LOCATIONS SHOWN ARE TO DENOTE THE TYPE AND QUANTITY. SEE SIGNAL PLAN FOR PULL BOX LOCATIONS.
 2. SEE FDOT STANDARD PLAN 635-001 FOR PULL BOX CONCRETE APRON.

CONTROLLER CABINET PAD CONDUIT ROUTING			
CONDUIT	FROM	TO	NOTES
1	CONTROLLER CABINET	FIBER OPTIC PULL BOX	
2	CONTROLLER CABINET	PB1	
3	CONTROLLER CABINET	PB2	
4	CONTROLLER CABINET	PB3	
5	CONTROLLER CABINET	CONDUIT #12	POWER
6	CONTROLLER CABINET	FIBER OPTIC PULL BOX	
7	CONTROLLER CABINET	PB1	SPARE
8	CONTROLLER CABINET	PB2	SPARE
9	CONTROLLER CABINET	PB3	SPARE
10	CONTROLLER CABINET	POWER LOAD PULL BOX	SPARE
11	----	----	1/2" GROUND ROD
12	UPS	CONDUIT #5	POWER
13	----	----	1/2" GROUND ROD
14	UPS	POWER LOAD PULLBOX	

PULL BOX SIZES			
	A	B	C
FIBER OPTIC	24"	36"	24"
PB1	17"	30"	12"
PB2	17"	30"	12"
PB3	17"	30"	12"
POWER LINE	17"	30"	12"
POWER LOAD	17"	30"	12"




**PULL BOX SCHEMATIC
NOT TO SCALE**

No.	Revision	Date	By	INDIAN RIVER COUNTY 1801 27th STREET VERO BEACH, FL 32960 (772) 567-8000	Department of Public Works Engineering Division	DESIGNED BY: E. FERGUSON, P.E.	ENGINEER OF RECORD: E. FERGUSON, P.E.	POWER SERVICE & CONTROLLER CABINET CONDUIT - TRAFFIC STANDARD DETAILS
						DRAWN BY: K. P. HANSEN	FL REG. #62036	

REVISIONS						MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 37th STREET & 11th DRIVE SIGNALIZATION IMPROVEMENTS	INDIAN RIVER COUNTY TRAFFIC SIGNALIZATION DETAILS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				6B

SUMMARY OF PAY ITEMS

PAY ITEM NO.	DESCRIPTION	UNIT	PROJECT QUANTITY
SIGNALIZATION PAY ITEMS			
101-1	MOBILIZATION/ DEMOBILIZATION	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
630-2-11	CONDUIT (SIGNAL) (F & I) (OPEN TRENCH)	LF	260
630-2-12	CONDUIT (SIGNAL) (F & I) (DIRECTIONAL BORE)	LF	625
632-7-1	CABLE (SIGNAL) (F & I)	PI	1
633-1-121	FIBER OPTIC CABLE (F & I) (UNDERGROUND) (12 STRAND SMFO)	LF	60
633-2-31	FIBER OPTIC CONNECTION (I) (SPLICE)	EA	24
633-3-11	FIBER OPTIC CONNECTION HARDWARE (F & I) (SPLICE ENCLOSURE)	EA	1
633-3-15	FIBER OPTIC CONNECTION HARDWARE (F & I) (PRETERMINATED PATCH PANEL)	EA	1
635-2-11	PULL BOX (F & I) (TRAFFIC SIGNAL)	EA	25
635-2-12	SPLICE BOX (F & I) (TRAFFIC SIGNAL)	EA	1
639-1-122	ELECTRICAL POWER SERVICE (F & I) (UNDERGROUND) (METER PURCHASED BY CONTRACTOR)	AS	1
639-2-1	ELECTRICAL SERVICE WIRE (F & I)	LF	290
639-3-11	ELECTRICAL SERVICE DISCONNECT (F & I) (POLE MOUNTED)	EA	1
641-2-12	PRESTRESSED CONC. POLE (F & I) (TYPE P-II SERVICE POLE)	EA	1
646-1-11	ALUMINUM SIGNALS POLE (PEDESTAL)	EA	8
649-21-03	STEEL MAST ARM ASSEMBLY (F & I) (40' ARM)	EA	1
649-21-06	STEEL MAST ARM ASSEMBLY (F & I) (50' ARM)	EA	2
649-21-10	STEEL MAST ARM ASSEMBLY (F & I) (60' ARM)	EA	1
650-1-14	TRAFFIC SIGNAL (F & I) (3-SECTION) (1-WAY) (ALUMINUM)	AS	8
650-1-16	TRAFFIC SIGNAL (F & I) (4-SECTION) (STRAIGHT) (ALUMINUM)	AS	4
653-1-11	PEDESTRIAN SIGNAL (F & I) (LED-COUNTDOWN) (1-WAY)	AS	8
660-4-11	VEHICLE DETECTION VIDEO (F&I) (CABINET EQUIPMENT)	EA	1
660-4-12	VEHICLE DETECTION VIDEO (F&I) (ABOVE GROUND EQUIPMENT)	EA	4
665-1-11	PEDESTRIAN DETECTOR (F & I) (POLE/PEDESTAL MOUNTED)	EA	8
670-5-111	TRAFFIC CONTROLLER ASSEMBLY (F & I) (NEMA) (TYPE 5) (ONE PREEMPTION PLAN)	AS	1
682-1-133	ITS CCTV CAMERA (F & I) (DOME ENCLOSURE, PTZ) (NON-PRESSURIZED) (IP) (HD)	EA	1
684-1-1	MANAGED FIELD ETHERNET SWITCH (F & I)	EA	1
685-1-13	UNINTERRUPTIBLE POWER SUPPLY (F & I) (LINE INTERACTIVE WITH CABINET)	EA	1
700-5-22	INTERNALLY ILLUMINATED STREET NAME SIGN	EA	4
715-1-11	LIGHTING CONDUCTORS (F & I) (INSULATED) (No. 10 OR <)	LF	1,725
715-5-31	LUMINAIRE & BRACKET ARM (F & I)	EA	4

<i>REVISIONS</i>						 MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	SUMMARY OF PAY ITEMS	SHEET NO. 7
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				

PAY ITEM FOOT NOTES

PAY ITEM NO. 101-1 - MOBILIZATION/DEMobilIZATION

INCLUDES ALL NECESSARY EQUIPMENT INCLUDING A TWO PERSON BUCKET TRUCK FOR USE BY THE ENGINEER OR COUNTY REPRESENTATIVE DURING INSPECTION OF TRAFFIC SIGNAL.

PAY ITEM NO.102-1 - MAINTENANCE OF TRAFFIC

INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING, INSTALLING MAINTAINING AND REMOVAL OF ALL ITEMS OF MAINTENANCE OF TRAFFIC NOT PAID FOR UNDER SEPARATE ITEMS.

PAY ITEM NO. 630-2-11 - CONDUIT (SIGNAL) (F&I) (OPEN TRENCH)

SHALL BE INSTALLED PER SECTION 630, OF FDOT'S STANDARD SPECIFICATIONS. ALL CONDUITS SHALL ENTER PULL BOXES AS REQUIRED IN FDOT STANDARD DESIGN INDEX 17700. ALL CONDUIT SHALL BE 2 INCH, SCHEDULE 40 PVC UNLESS SPECIFIED OTHERWISE IN THE PLANS OR SPECIFICATIONS. ALL SPARE CONDUITS SHALL ENTER THE SIGNAL CABLE PULL BOX UNLESS OTHER WISE STATED IN THE PLAN.

PAY ITEM NO. 630-2-12 - CONDUIT (SIGNAL) (F&I) (DIRECTIONAL BORE)

SHALL CONSIST OF MULTIPLE 2 INCH SCHEDULE 40 PVC SLEEVES PER BORE. SEE SPECIFIC PLAN SHEETS FOR NUMBER REQUIRED FOR THE BORE. ALL DIRECTIONAL BORING SHALL BE DONE IN CONFORMANCE WITH FDOT UTILITY ACCOMMODATIONS MANUAL REQUIREMENTS.

PAY ITEM NO. 632-7-1 - CABLE (SIGNAL) (F&I)

SHALL BE INSTALLED PER FDOT STANDARD INDEX 17727 AS APPLICABLE. THREE SPARE CONDUCTORS PER SIGNAL CABLE ARE REQUIRED. SPARES SHALL BE GROUNDED TO THE BUS GROUNDING FACILITY IN THE CONTROLLER CABINET. MAST ARM CABLING SHALL CONSIST OF A TWENTY CONDUCTOR IMSA-19 SIGNAL CABLE FROM CONTROL CABINET TO EACH MAST ARM. EACH CONDUCTOR SHALL BE TERMINATED UPON THE 20 TERMINAL-TERMINAL BLOCK LOCATED IN THE TERMINAL COMPARTMENT OF THE MAST. A SEPARATE IMSA-19 SEVEN CONDUCTOR SHALL BE RUN FROM THE TERMINAL BLOCK TO EACH SIGNAL HEAD. PEDESTRIAN SIGNALS SHALL HAVE A SEVEN CONDUCTOR TO EACH CORNER ALONG WITH A FOUR CONDUCTOR FOR THE PEDESTRIAN DETECTORS. SPAN WIRE INSTALLATIONS SHOULD CONSIST OF A SEPARATE IMSA-19 TWELVE CONDUCTOR CABLE TO EACH APPROACH. PEDESTRIAN SIGNALS SHALL HAVE AN IMSA-19 SEVEN CONDUCTOR TO EACH CORNER ALONG WITH A FOUR CONDUCTOR FOR THE PEDESTRIAN DETECTORS THESE CABLES SHOULD RUN FROM PEDESTRIAN SIGNAL TO CONTROL CABINET DIRECTLY.

PAY ITEM NO. 635-2-11 - PULL BOX (F&I) (TRAFFIC SIGNAL)

SHALL BE INSTALLED IN ACCORDANCE WITH FDOT DESIGN STANDARD INDEX 17700, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SIZE THE PULL BOXES SUCH THAT THEY WILL ALLOW PLACEMENT OF ALL CABLES INSIDE THE PULL BOXES WHILE MAINTAINING THE REQUIRED MINIMUM BENDING RADII ON THE CABLES AND NOT EXCEEDING THE MAXIMUM BENDING RADII OF THE CABLES (MIN. 17"X30"X12"). PULL BOX COVERS SHALL BE FDOT APPROVED OF NON-METALLIC CONSTRUCTION WITH RECESSED COVER LOGO "TRAFFIC SIGNAL"OR "FIBER OPTIC"AS APPROPRIATE. PULL BOXES SHALL BE QUAZITE AND PLACED BEHIND CURB AND GUTTER. IF THERE IS NO CURB AND GUTTER, THE PULL BOXES SHALL BE PLACED A MINIMUM OF 7 FEET FROM THE EDGE OF PAVEMENT WITH PULL BOXES AND LIDS BEING TRAFFIC BEARING. PULL BOXES SHALL NOT BE PLACED IN PEDESTRIAN RAMPS. PULL BOXES SHALL HAVE CONCRETE MOWER PADS IN ACCORDANCE WITH STANDARD DESIGN INDEX 17700.

PAY ITEM NO. 639-1-122 - ELECTRICAL POWER SERVICE (F&I) (UNDERGROUND) (METER PURCHASED BY CONTRACTOR)

SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND PERMITS REQUIRED TO FURNISH AND INSTALL THE ASSEMBLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL AGENCIES REQUIRED FOR APPROVAL OF THE COMPLETED INSTALLATION. FDOT DESIGN STANDARD INDEX 17504, 17736 (AS APPLICABLE) SHALL APPLY.

PAY ITEM NO. 639-2-1 - ELECTRICAL SERVICE WIRE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE CONDUCTORS FOR THE POWER SERVICE.

PAY ITEM NO. 660-4-11 AND 660-4-12 - VEHICLE DETECTION VIDEO (F&I) CABINET AND ABOVE GROUND EQUIPMENT

SHALL CONSIST OF 4 VEHICLE DETECTOR ASSEMBLIES (VIDEO TYPE), TRAFISENSE DETECTION, LATEST TECHNOLOGY. A COMPLETE VIDEO DETECTION INSTALLATION CONSISTENT WITH INDIAN RIVER COUNTY STANDARDS FOR ALL APPROACHES OF THE INTERSECTION IS REQUIRED. THE EQUIPMENT SHALL BE VIDEO DETECTION UNITS CAPABLE OF INTERFACE WITH THE TRAFFIC SIGNAL CONTROLLER UNIT AND SHALL INCLUDE THE COST OF MOUNTING ARMS TO EXTEND CAMERA TO A POSITION OVER THE ROADWAY UNLESS OTHER WISE STATED ON THE PLAN. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE SUPPLIER AND INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION TO ENSURE RELIABLE OPERATION. CAMERA LOCATIONS MAY REQUIRE ADJUSTMENT IN THE FIELD. CONTACT INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION BEFORE ORDERING.


PAY ITEM NO. 670-5-111 - TRAFFIC CONTROLLER ASSEMBLY (F&I) (NEMA) (TYPE 5) (ONE PREEMPTION PLAN)

SHALL BE ECONOLITE TYPE 6 CABINET WITH INTERNAL PHOTO CELL STREET SIGN CONTROL. THE CONTRACTOR SHOULD COORDINATE WITH THE INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION PRIOR TO ORDERING ANY CONTROLLER RELATED EQUIPMENT.

PAY ITEM NO. 715-5-31

SHALL CONSIST OF AEL HOLOPHANE ATB0 P304 MVOLT R4 4K GN 20 TB PCLL OR APPROVED EQUIVALENT.

ALL TRAFFIC SIGNAL EQUIPMENT MUST BE CONSISTENT WITH INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS. CONTRACTOR SHALL COORDINATE WITH THE INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION TO CONFIRM THAT EQUIPMENT STANDARDS HAVE NOT CHANGED SINCE THE TIME OF PUBLICATION OF THESE PLANS.

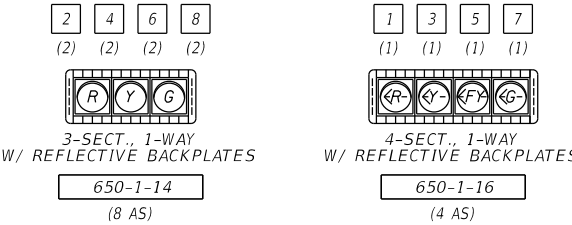
REVISIONS						 <small>MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106</small>	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	PAY ITEM FOOT NOTES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				8

DETECTION CAMERA ASSIGNMENTS				
CAMERA NO.	ZONE NO.	DETECTOR OPERATION	TIMING FUNCTION	DELAY TIME (SEC)
V1	5	NORMAL	5	3
	2	NORMAL	2	-
V2	4	NORMAL	4	-
	7	NORMAL	7	-
V3	6	NORMAL	6	-
	1	NORMAL	1	3
V4	8	NORMAL	8	-
	3	NORMAL	3	-

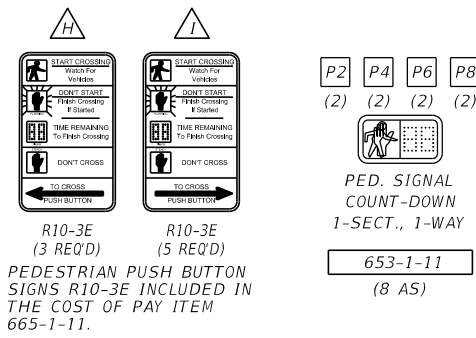
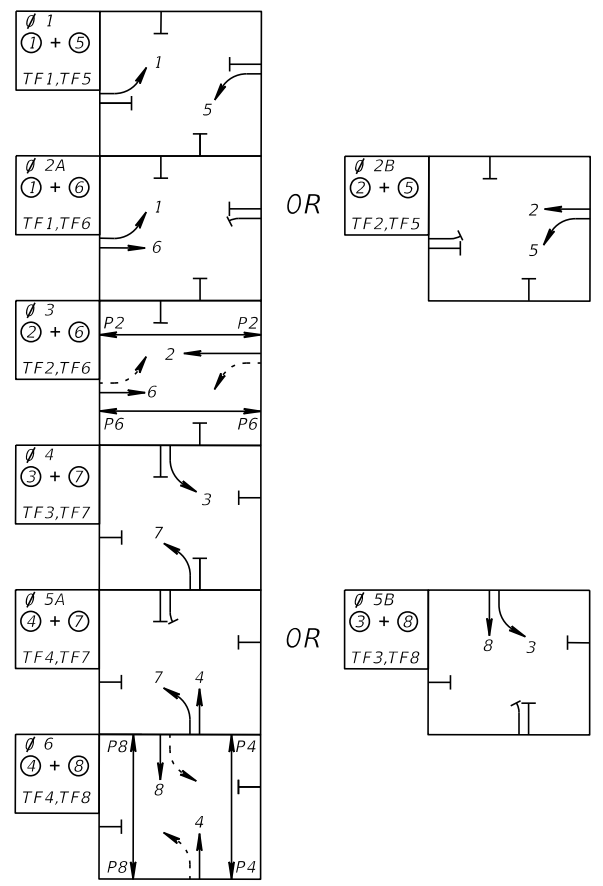
DETECTION CAMERA ASSIGNMENTS AND DETECTION ZONE AREAS ARE PRELIMINARY AND MAY REQUIRE FIELD ADJUSTMENT BY THE CONTRACTOR DURING INSTALLATION. DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.

CONTROLLER TIMINGS								
VEH. MOVEMENT	1	2	3	4	5	6	7	8
YELLOW CLEARANCE	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALL RED	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PED. MOVEMENT	P2	P4	P6	P8				
PEDESTRIAN WALK	7.0	7.0	7.0	7.0				
PED. CLEARANCE	19.0	16.0	19.0	16.0				

SIGNAL DISPLAY DETAILS

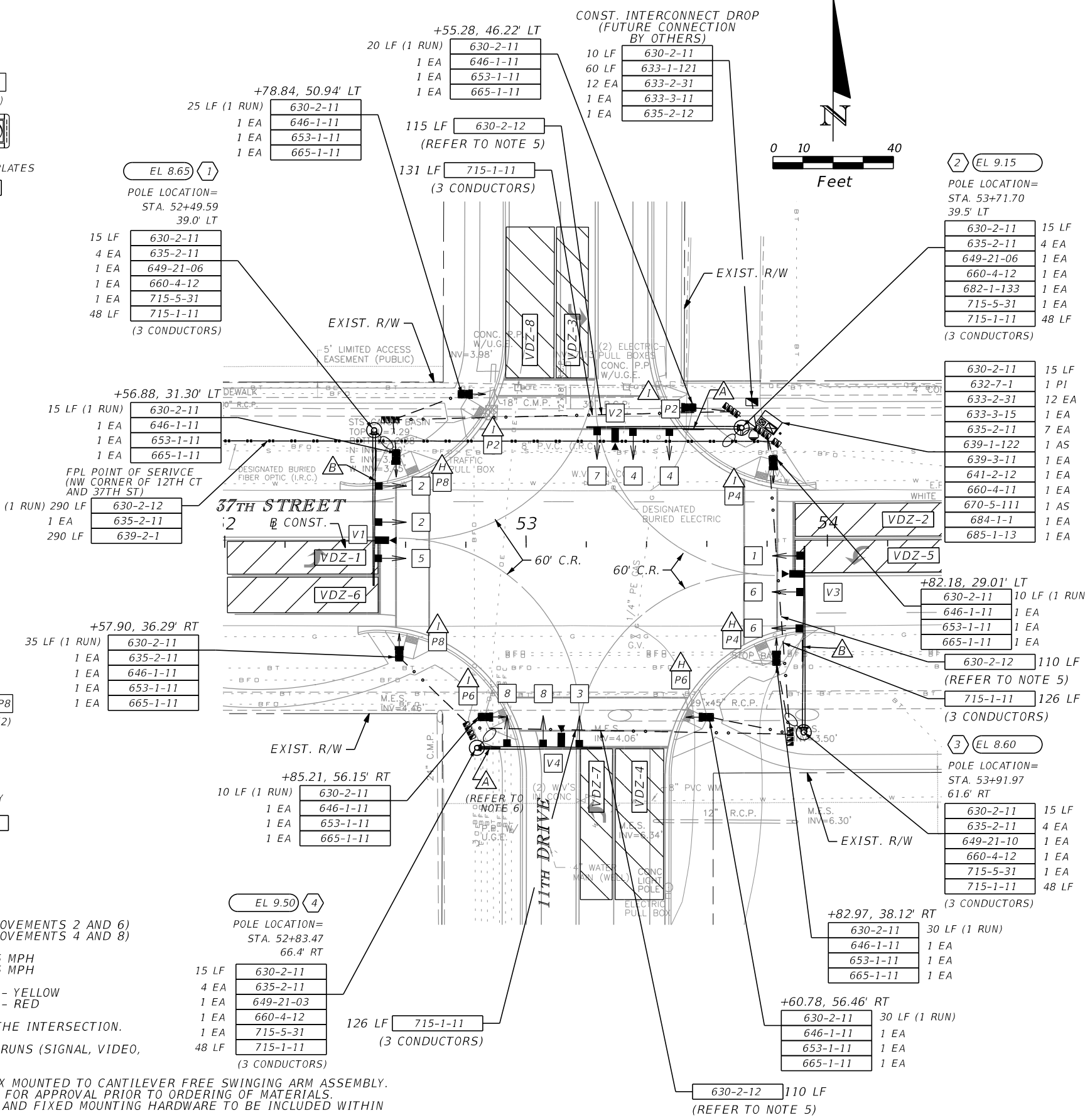


ASSOCIATED PHASE MOVEMENTS



CONTROLLER OPERATIONS

1. MAJOR STREET: 37TH STREET (MOVEMENTS 2 AND 6)
MINOR STREET: 11TH DRIVE (MOVEMENTS 4 AND 8)
2. SPEED LIMITS: 37TH STREET 35 MPH
11TH DRIVE 35 MPH
3. FLASHING OPERATION: MOVEMENTS 2 & 6 - YELLOW
MOVEMENTS 4 & 8 - RED
4. CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION.
5. ALL CONDUIT RUNS SHALL CONSIST OF 4 RUNS (SIGNAL, VIDEO, LIGHTING AND 1 SPARE)
6. INTERNALLY ILLUMINATED SIGN TO BE FIX MOUNTED TO CANTILEVER FREE SWINGING ARM ASSEMBLY. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ORDERING OF MATERIALS. COST OF FREE SWINGING ARM ASSEMBLY AND FIXED MOUNTING HARDWARE TO BE INCLUDED WITHIN PAY ITEM 700-5-22.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
 MICHAEL C. FORMAN, P.E.
 P.E. LICENSE NUMBER 85367
 445 24th STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4100
 REGISTRY NUMBER: 35106

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS
 37TH STREET & 11TH DRIVE
 SIGNALIZATION IMPROVEMENTS**

**37TH STREET & 11TH DRIVE
 SIGNALIZATION PLANS**

SHEET NO.	9
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NW CORNER

NE CORNER

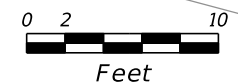
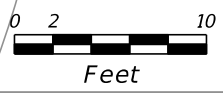
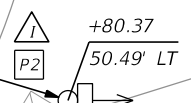
EXIST. R/W

EXIST. R/W

EXIST. R/W

EXIST. R/W

PED SIGNAL & DETECTOR
REFER TO DETAIL (TYP.)

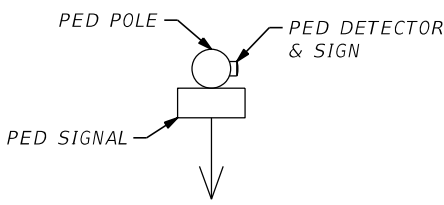


PED SIGNAL & DETECTOR
REFER TO DETAIL (TYP.)



30"X48" MANEUVERING
AREA (TYP.)

+57.29
30.79' LT



TYPICAL PEDESTRIAN SIGNAL FEATURES

N.T.S.

NOTE

- 1. USE THIS SHEET FOR SIGNAL AND DETECTOR ORIENTATION.

37TH STREET

37TH STREET

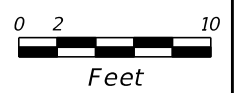
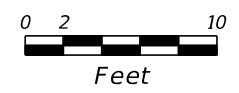
30"X48" MANEUVERING
AREA (TYP.)

+82.53
29.27' LT



37TH STREET

37TH STREET



+57.90
36.29' RT



PED SIGNAL & DETECTOR
REFER TO DETAIL (TYP.)

+85.21
56.15' RT



30"X48" MANEUVERING
AREA (TYP.)

EXIST. R/W

11TH DRIVE

11TH DRIVE

+82.97
38.12' RT



30"X48" MANEUVERING
AREA (TYP.)

PED SIGNAL & DETECTOR
REFER TO DETAIL (TYP.)

+60.78
56.46' RT



SW CORNER

SE CORNER

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

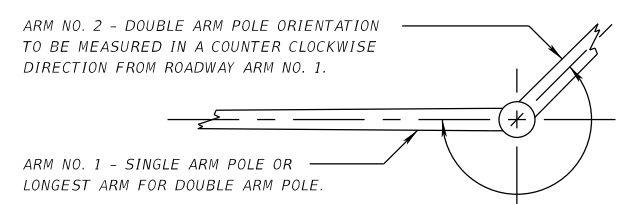
MICHAEL C. FORMAN, P.E.
P.E. LICENSE NUMBER 85367
445 24th STREET, SUITE 200
VERO BEACH, FL 32960
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REGISTRY NUMBER: 35106

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS
37TH STREET & 11TH DRIVE
SIGNALIZATION IMPROVEMENTS

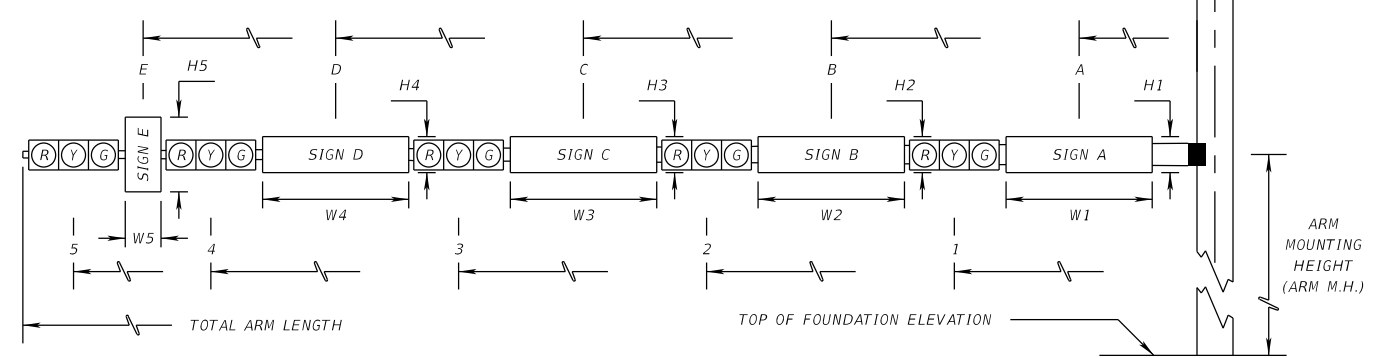
PEDESTRIAN SIGNAL AND
DETECTOR DETAILS

SHEET
NO.
10

2001 I.R.CO. Proj. No. THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



NOTE: REFER TO THIS PLAN, STANDARD MAST ARM ASSEMBLIES DESIGN TABLE, AND FDOT INDEX NO:S 17743 AND 17745 FOR LUMINAIRE AND LUMINAIRE CONNECTION DETAILS.



MAST ARM TABULATION

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

VD DENOTES VIDEO DETECTION CAMERA; CCTV DENOTES CCTV CAMERA

ID NO.	SHEET NO.	LOCATION BY STATION	TOP OF FOUNDATION ELEVATION	RDWY ARM NO.	CROWN ELEVATION	SIGNAL DATA										TOTAL ARM LENGTH	ARM MTG. HEIGHT	ANGLE BETWEEN DUAL ARMS 90/270	SIGN DATA															PAINT COLOR					
						SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE										DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN																				
									1	*	2	*	3	*	4				*	5	*	A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4		E	H5	W5		
1	9	52+49.59, 39.0' LT	8.65	1	8.96	H	Y	N	18.5	3	30.5	3	42.5	4				50			10.0	2.0	6.0	-	-	-	36.5	VD	VD								HIGHWAY GREEN		
2	9	53+71.70, 39.5' LT	9.15	1	8.36	H	Y	N	24.0	3	36.0	3	48.0	4				50			16.0	2.0	7.0	-	-	-	42.0	VD	VD								HIGHWAY GREEN		
3	9	53+91.97, 61.6' RT	8.60	1	8.72	H	Y	N	34.5	3	46.5	3	58.5	4				60			27.0	2.0	6.0	-	-	-	52.5	VD	VD							HIGHWAY GREEN			
4	9	52+83.47, 66.4' RT	9.50	1	9.11	H	Y	N	10.0	3	22.0	3	34.0	4				40			-	-	-	-	-	-	28.0	VD	VD							HIGHWAY GREEN			
				2																																			
				1																																			
				2																																			
				1																																			
				2																																			

REVISIONS						<p style="font-size: small;">MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106</p>	<p style="font-weight: bold; font-size: small;">INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57th STREET & 11th DRIVE SIGNALIZATION IMPROVEMENTS</p>	MAST ARM TABULATION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				11


STANDARD MAST ARM ASSEMBLIES DATA TABLE											Table Date 10-13-21
STRUCTURE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
Pole 1	A50/S-P3/S/L-DS/12/4.5	A50/S	-	-	-	-	45	P3/S/L	-	19.75	DS/12/4.5
Pole 2	A50/S-P3/S/L-DS/14/4.5	A50/S	-	-	-	-	45	P3/S/L	-	18.75	DS/14/4.5
Pole 3	A60/S-P4/S/L-DS/16/4.5	A60/S	-	-	-	-	45	P4/S/L	-	19.5	DS/16/4.5
Pole 4	A40/S-P2/S/L-DS/12/4.5	A40/S	-	-	-	-	45	P2/S/L	-	19.0	DS/12/4.5

NOTES [NOTES DATE 06-17-21]:

- IF AN ENTRY APPEARS IN COLUMN FAA, A SHORTER ARM IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE ARM TIP AND THE ARM LENGTH SHORTENED FROM FA TO FAA. SAA SIMILAR.
- IF AN ENTRY APPEARS IN COLUMN UAA, A SHORTER POLE IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE POLE TIP AND THE POLE HEIGHT SHORTENED FROM UA TO UAA.
- ARM MOUNTING HEIGHT UB MUST BE BETWEEN 18-22 FEET.
- POLE TYPES P2 AND LARGER REQUIRE A MINIMUM 4.5 FOOT DIAMETER DRILLED SHAFT. POLE TYPES P5 AND LARGER REQUIRE A MINIMUM 5.0 FOOT DIAMETER DRILLED SHAFT.
- WORK THIS SHEET WITH THE SIGNAL DESIGNER'S "MAST ARM TABULATION". SEE "MAST ARM TABULATION" FOR SPECIAL INSTRUCTIONS THAT INCLUDE NON-STANDARD HANDHOLE LOCATION, PAINT COLOR, TERMINAL COMPARTMENT REQUIREMENT, AND PEDESTRIAN FEATURES.
- WORK WITH INDEX 649-030 AND 649-031.

FOUNDATION NOTES:

- FOUNDATION DESIGN IS BASED ON SUBSURFACE SOIL EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION REPORT PROVIDED BY GFA INTERNATIONAL DATED MARCH 4TH, 2021. (GFA PROJECT NO. 3330.2000164.0000)
- VALUES USED IN DESIGN:
 - MAST ARMS 1-4
 - SOIL FRICTION ANGLE = 30°
 - SOIL WEIGHT = 50 PCF (SUBMERGED)
 - SPT "N" VALUE = 15
- GEOTECHNICAL RECOMMENDATIONS
 - THE CONTRACTOR IS ADVISED THAT SUBSURFACE MATERIALS MAY BECOME UNSTABLE AND CAVE DURING EXCAVATION OF DRILLED SHAFTS.
 - BASED ON THE ENCOUNTERED SOIL AND GROUNDWATER CONDITIONS AT THE SITE, IT IS ANTICIPATED THAT THE SHAFTS WILL BE INSTALLED BY THE "WET CONSTRUCTION METHOD" AS DESCRIBED IN FDOT SPECIFICATION 455.
 - IT IS ANTICIPATED THAT A TEMPORARY CASING WILL BE NECESSARY TO STABILIZE THE NEAR SURFACE SOILS.

REVISIONS						 <small>MICHAEL C. FORMAN, P.E. P.E. LICENSE NUMBER 85367 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 REGISTRY NUMBER: 35106</small>	INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 57TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	STANDARD MAST ARM ASSEMBLIES DATA TABLE	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				12

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING MA-1
PAGE 1 OF 1

CLIENT MBV Engineering, Inc. PROJECT NAME 11th Drive S Roadway Improvements & Extension
PROJECT NUMBER 3330.2000164.0000 PROJECT LOCATION 11th Drive S & 37th Street, Vero Beach, Florida
DRILLING CONTRACTOR AMDrill Inc. HOLE DEPTH 35 ft HOLE DIAMETER 3 in
DRILLER DATE STARTED 2/20/21 COMPLETED 2/20/21
DRILL RIG Track Rig GROUND WATER LEVEL: AT TIME OF DRILLING 4.00 ft
METHOD SPT LATITUDE LONGITUDE
NOTE: HAMMER TYPE

DEPTH (ft)	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.5	1	88			Light brown fine sand (SP)			
1.2	2	88						
4.0	3	88	14		Gray fine sand (SP)			
8.0	4	82	44		Gray sand and cemented sand with shell (SP)			
13.5	6	10	32		Gray fine sand, trace shell (SP)			
26.5	8	9	33		Gray fine sand with shell (SP)			
33.5	9	14	37		Gray fine sand with shell (SP)			
35.0	10	10	17		Gray fine sand, trace shell (SP)			

Bottom of borehole at 35.0 feet.

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING MA-2
PAGE 1 OF 1

CLIENT MBV Engineering, Inc. PROJECT NAME 11th Drive S Roadway Improvements & Extension
PROJECT NUMBER 3330.2000164.0000 PROJECT LOCATION 11th Drive S & 37th Street, Vero Beach, Florida
DRILLING CONTRACTOR AMDrill Inc. HOLE DEPTH 35 ft HOLE DIAMETER 3 in
DRILLER DATE STARTED 2/20/21 COMPLETED 2/20/21
DRILL RIG Track Rig GROUND WATER LEVEL: AT TIME OF DRILLING 4.00 ft
METHOD SPT LATITUDE LONGITUDE
NOTE: HAMMER TYPE

DEPTH (ft)	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.5	1	88			Asphalt (4")			
1.2	2	88			Base rock (10.5")			
4.0	3	88	27		Light brown fine sand, trace shell (SP)			
5.0	4	11	27		Brown fine sand with silt (SP-SM)			
6.0	5	14	46		Gray fine sand (SP)			
8.0	6	12	43		Light gray fine sand (SP)			
10	7	8	23		Gray fine sand, little shell (SP)			
15	8	8	26		Gray fine sand, trace shell (SP)			
23.5	9	17	30		Gray fine sand, trace shell (SP)			
35.0	10	10	28		Gray fine sand, trace shell (SP)			

Bottom of borehole at 35.0 feet.

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Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING MA-3
PAGE 1 OF 1

CLIENT MBV Engineering, Inc. PROJECT NAME 11th Drive S Roadway Improvements & Extension
PROJECT NUMBER 3330.2000164.0000 PROJECT LOCATION 11th Drive S & 37th Street, Vero Beach, Florida
DRILLING CONTRACTOR AMDrill Inc. HOLE DEPTH 35 ft HOLE DIAMETER 3 in
DRILLER DATE STARTED 2/20/21 COMPLETED 2/20/21
DRILL RIG Track Rig GROUND WATER LEVEL: AT TIME OF DRILLING 3.50 ft
METHOD SPT LATITUDE LONGITUDE
NOTE: HAMMER TYPE

DEPTH (ft)	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
2.0	1	88			Gray fine sand (SP)			
4.0	2	88			Gray fine sand, trace rock (SP)			
5.0	3	88			Brown fine sand with silt (SP-SM)			
6.0	4	7	28		Gray fine sand, trace shell (SP)			
8.0	5	33	63		Gray fine sand with shell (SP)			
13.5	6	9	27		Gray fine sand, little shell (SP)			
20	7	8	34		Gray fine sand, little shell (SP)			
25	8	11	35		Gray fine sand, trace shell (SP)			
28.5	9	13	39		Gray fine sand, trace shell (SP)			
33.5	10	9	25		Gray fine sand with shell (SP)			

Bottom of borehole at 35.0 feet.

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Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING MA-4
PAGE 1 OF 1

CLIENT MBV Engineering, Inc. PROJECT NAME 11th Drive S Roadway Improvements & Extension
PROJECT NUMBER 3330.2000164.0000 PROJECT LOCATION 11th Drive S & 37th Street, Vero Beach, Florida
DRILLING CONTRACTOR AMDrill Inc. HOLE DEPTH 35 ft HOLE DIAMETER 3 in
DRILLER DATE STARTED 2/20/21 COMPLETED 2/20/21
DRILL RIG Track Rig GROUND WATER LEVEL: AT TIME OF DRILLING 5.00 ft
METHOD SPT LATITUDE LONGITUDE
NOTE: HAMMER TYPE

DEPTH (ft)	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.5	1	88			Asphalt (3")			
1.3	2	88			Base rock (12")			
4.0	3	88			Brown fine sand (SP)			
5.0	4	8	25		Brown fine sand with silt (SP-SM)			
8.0	5	14	25		Gray fine sand, trace shell (SP)			
18.5	7	8	26		Gray fine sand, little shell (SP)			
33.5	9	10	29		Gray fine sand with silt, trace shell (SP-SM)			

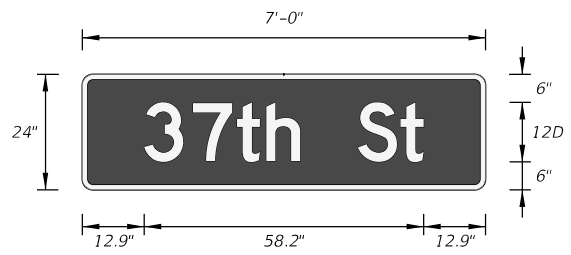
Bottom of borehole at 35.0 feet.

SOIL BORING NOTES:

- SOIL BORING LOGS DEPICTED ARE EXERPTS FROM THE EVALUATION REPORT PROVIDED BY GFA INTERNATIONAL DATED MARCH 4TH, 2021. (GFA PROJECT NO. 3330.2000164.0000)

REVISIONS						INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS 37TH STREET & 11TH DRIVE SIGNALIZATION IMPROVEMENTS	SOIL BORING DATA SHEET	SHEET NO. 13
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			

SIGN NAME	A	QTY	2	SIGN NO.	STATION(S)
PANEL	BORDER				
WIDTH	7'-0"	WIDTH	1"		
HEIGHT	2'-0"	RADII	2.25"		
LEGEND	White	COLOR	White		
COLOR	Green				
SYMBOL(S)	ANGLE	X	Y	WID	HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH	

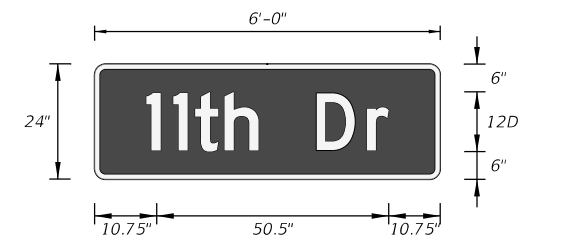


BORDER
R=2.25"
TH=1"

Panel Style: IRC Mast.ssi
M.U.T.C.D.: 2009 Edition

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

SIGN NAME	B	QTY	2	SIGN NO.	STATION(S)
PANEL	BORDER				
WIDTH	6'-0"	WIDTH	1"		
HEIGHT	2'-0"	RADII	2.25"		
LEGEND	White	COLOR	White		
COLOR	Green				
SYMBOL(S)	ANGLE	X	Y	WID	HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH	



BORDER
R=2.25"
TH=1"

Panel Style: IRC Mast.ssi
M.U.T.C.D.: 2009 Edition

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	3	7	t	h	S	t	L												
SPACE	12.9	23.1	32.2	38.3	45.4	57.4	66.3	58.2											
COPY																			
SPACE																			
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COPY																			
SPACE																			

COPY	1	1	t	h	D	r	L												
SPACE	10	15.6	20.2	26.3	33.4	45.4	56	50.5											
COPY																			
SPACE																			
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SPACE																			

SIGN NAME		QTY		SIGN NO.	STATION(S)
PANEL	BORDER				
WIDTH	WIDTH				
HEIGHT	RADII				
LEGEND	COLOR				
COLOR					
SYMBOL(S)	ANGLE	X	Y	WID	HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH	

NO. OF LIGHT FIXTURES

FIXTURE SPACING

PHOTOMETRIC CURVE

WATT

VOLTAGE

SIGN NAME		QTY		SIGN NO.	STATION(S)
PANEL	BORDER				
WIDTH	WIDTH				
HEIGHT	RADII				
LEGEND	COLOR				
COLOR					
SYMBOL(S)	ANGLE	X	Y	WID	HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH	

NO. OF LIGHT FIXTURES

FIXTURE SPACING

PHOTOMETRIC CURVE

WATT

VOLTAGE

COPY																			
SPACE																			
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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

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REGISTRY NUMBER: 35106

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS
37th STREET & 11th DRIVE
SIGNALIZATION IMPROVEMENTS

GUIDE SIGN
WORKSHEET

SHEET NO.
14