



NORTH COLLIER FIRE CONTROL AND RESCUE DISTRICT
1885 Veterans Park Drive · Naples, FL 34109 · (239) 597-3222
www.northcollierfire.com

INVITATION TO BID

TO: Prospective Bidders

FROM: Assistant Chief Eloy Ricardo

RE: Bid for the Construction and Installation of Emergency Traffic Signal at Station 42

DATE: December 4, 2017

INTRODUCTION

The North Collier Fire Control & Rescue District is seeking bids for the construction and installation of an Emergency Steel Mast Arm Signal for the median cut on Immokalee Road and North Collier Fire Control & Rescue District Station #42 (7010 Immokalee Road), to be used to control Immokalee Road traffic during emergency situations.

INSTRUCTIONS

- A. All responses to this Request for Proposals must be submitted to North Collier Fire Control & Rescue District
Attn: Assistant Chief Eloy Ricardo
ITB – EMERGENCY TRAFFIC SIGNAL CONSTRUCTION AND INSTALLATION
1885 Veteran’s Park Drive
Naples, FL 34109
FAX: (239) 597-3522
- B. An original and Two (2) copies of the response must be received by 4:00 p.m. on Friday, December 29, 2017. If not received by the specified time and date, the proposal will be rejected. Inquiries pertaining to this Invitation to Bid should be directed to Assistant Chief Eloy Ricardo at 239-552-1325, or e-mail ericardo@northcollierfire.com.

- C. Conformity of Application Laws – The respondent must comply with all applicable federal, state and local laws, rules and regulations.
- D. The North Collier Fire Control & Rescue District reserves the right to waive any informalities or irregularities in, or reject any or all responses, and to award or refrain from awarding any contract for services. The North Collier Fire Control & Rescue District is not liable for any costs incurred by the responding parties prior to the issuance of an executed contract.
- E. All firms and their agents who intend to submit, or who have submitted proposals for this project are placed on formal notice that neither the Board of Fire Commissioners nor any employee of the North Collier Fire Control & Rescue District are to be lobbied either individually or collectively concerning this project.
- F. All proposals must contain the design project's anticipated start and completion schedule, and must provide a schedule for payment.
- G. If your firm is not responding to this Request for Proposal, please complete the Non-Bidder's Response form attached hereto (Attachment A).

SPECIFICATIONS AND SCOPE OF SERVICES

The construction and installation shall be pursuant to the Plans for the Signalization of Immokalee Road @ Fire Station 42 attached hereto as Attachment B.

NO LIABILITY TO THE DISTRICT

No Representations or Warranties

No representation or warranty is made with respect to any fact and opinion stated herein or with respect to any additional data provided to respondents which is based on available information.

District's Discretion, Non-Liability, Waivers and Hold Harmless

Respondent, by submitting a response to this Invitation to Bid, waives all rights to protest or seek any legal remedies whatsoever regarding any aspect of this Invitation to Bid. The District reserves the right to select any number of qualified finalists. In addition, the District reserves the right to issue written notice to all respondents of any changes in the qualifications, submission schedule or other schedules, should the District determine in its sole and absolute discretion that such changes are necessary. The District specifically reserves the right to reject any and all respondent applications at any time and for any reason.

ATTACHMENT A

NON-BIDDERS RESPONSE FORM

If your firm is not responding to this Invitation to Bid, please indicate the reason(s) by checking an appropriate item(s) listed below and return this form to:

North Collier Fire Control & Rescue District
Attn: Assistant Chief Eloy Ricardo
1885 Veteran's Park Drive
Naples, FL 34109
Fax: (239) 597-7082

We are not responding to this Invitation to Bid for the following reason(s):

- Items, materials or services do not meet specifications.
- Specifications were not clearly understood.
- Specifications were not applicable.
- Specifications were too vague.
- Specifications were too rigid.

Other reason(s):

Name of Firm: _____

Address: _____

City, State, Zip _____

Phone: _____

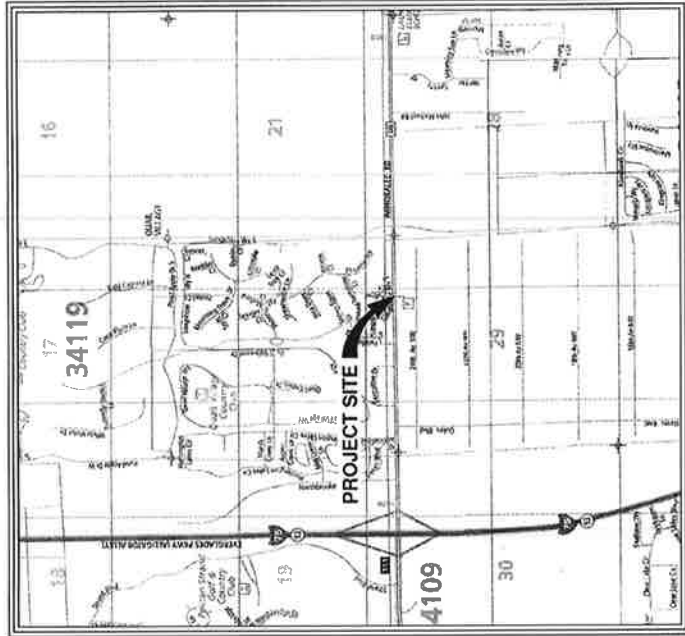
Fax: _____

By: _____

Printed Name of Representative

Signature of Representative

COLLIER COUNTY DEPARTMENT OF TRANSPORTATION PLANS FOR THE SIGNALIZATION OF IMMOKALEE ROAD @ FIRE STATION 42



INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
T-1	COVER
T-2	TABULATION OF QUANTITIES
T-3	GENERAL NOTES
T-4	SIGNALIZATION PLAN
T-5	SIGNING AND PAVEMENT MARKING PLAN
T-6	MAST ARM TABULATION
T-7	SPECIAL MAST ARM TABLE OF VARIABLES

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MAY BE CONSIDERED WHEN OBTAINING SCALED DATA. STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, JANUARY 2016 AND COLLIER COUNTY TRAFFIC OPERATIONS TECHNICAL SPECIAL PROVISIONS, MAY 2015.

NOT FOR CONSTRUCTION

JOB NO. F-1608-10	DATE BY	DESIGNED BY R.C.F.	APPROVED BY RED C FELLOWS P.E. 8167	MAY 3, 2017	TRANSPORTATION CONSULTANTS, INC.	2726 OAK RIDGE COURT, SUITE 503 FORT MYERS, FL 33907-1626 (239) 276-5800 CERTIFICATE OF AUTHORIZATION: RT7003	SHEET NO. T-1
						IMMOKALEE ROAD FIRE STATION 42	
						COVER	

TABULATION OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SIGNALIZATION PLAN		MARKING PLAN		TOTAL
			T-4		T-5		
			PLAN	FINAL	PLAN	FINAL	
101-1	MOBILIZATION	LS	1				1
102-1	MAINTENANCE OF TRAFFIC	LS	1				1
630-2-11	CONDUIT (UNDERGROUND)	LF	122				122
630-2-12	DIRECTIONAL BORE (6" TO 12")	LF	284				284
632-7-1	SIGNAL CABLE (F&I)	PI	1				1
633-1-121	ITS FIBER OPTIC CABLE (F&I) (UNDERGROUND) (1-12 FIBERS)	LF	40				40
633-3-11	ITS FIBER OPTIC CONNECTION HARDWARE (F&I) (SPLICE ENCLOSURE)	EA	1				1
633-3-14	ITS FIBER OPTIC CONNECTION HARDWARE (F&I) (BUFFER TUBE FAN OUT KIT)	EA	1				1
633-3-15	ITS FIBER OPTIC CONNECTION HARDWARE (F&I) (PATCH PANEL, PRETERMINATED)	EA	1				1
635-2-11	PULL BOX (13" x 24" COVER SIZE)	EA	6				6
639-1-121	ELECTRICAL POWER SERVICE (UNDERGROUND) (METER PURCHASED BY CONTRACTOR)	AS	1				1
639-2-1	ELECTRICAL SERVICE WIRE	LF	300				300
641-2-12	PRESTRESSED CONCRETE POLE (F&I) (TYPE P-II SERVICE)	EA	1				1
349-31-199	STEEL MAST ARM ASSEMBLIES (F&I) (SPECIAL)	EA	1				1
650-1-14	TRAFFIC SIGNAL 12" STD. (F&I) (ALUMINUM) (3 SECTION, 1-WAY)	AS	8				8
663-1-111	SIGNAL PRIORITY AND PREEMPTION SYSTEM (F&I), (OPTICOM), (CABINET ELECTRONICS)	EA	1				1
663-1-112	SIGNAL PRIORITY AND PREEMPTION SYSTEM (F&I) (OPTICOM), (DETECTOR)	EA	1				1
665-1-11	DETECTOR, PEDESTRIAN (F&I) (STANDARD)	EA	1				1
670-5-111	TRAFFIC CONTROLLER ASSEMBLY (F&I) (NEMA) (ONE PREEMPTION PLAN)	AS	1				1
682-1-111	ITS CCTV CAMERA (F&I) (DOME ENCLOSURE) (PRESSURIZED)	EA	1				1
684-1-1	ITS MANAGED FIELD ETHERNET SWITCH (F&I) (1 GIG FIBER INTERFACE)	EA	1				1
685-1-13	UNINTERRUPTIBLE POWER SUPPLY (F&I)	EA	1				1
700-3-201	SIGN PANEL (F&I) (OVERHEAD MOUNT)	EA	2				2
710-90	PAINTED PAVEMENT MARKING - FINAL SURFACE	LS				1	1
710-11-125	PAINTED PAVEMENT MARKING (STANDARD) (WHITE) (SOLID) (24" STOP BAR)	LF				82	82

NOT FOR CONSTRUCTION

JOB NO. F1608.10	DESIGNED BY DRAWN BY CHECKED BY	R.C.F. W.L.F. R.C.F.	APPROVED BY: REB.C.FELLOWS P.E.#187	MAY 3, 2017	TRANSPORTATION CONSULTANTS, INC.	2728 OAK RIDGE COURT, SUITE 509 FORT MYERS, FLORIDA 33901-6636 (239) 278-3060 CERTIFICATE OF AUTHORIZATION: #27003	IMMOKALEE ROAD FIRE STATION 42 TABULATION OF QUANTITIES	SHEET NO. T-2
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GENERAL NOTES

THE MAINTAINING AGENCY IS COLLIER COUNTY. CONTRACTOR SHALL CONTACT MR. GREGORY GARCIA, COLLIER COUNTY TRAFFIC OPERATIONS MANAGER SEVEN DAYS PRIOR TO BEGINNING WORK.

LOCATIONS OF UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO PERFORMING ANY EXCAVATION OPERATION AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE IN CLOSE PROXIMITY TO SIGNAL POLE OR CONDUIT. LOCATIONS SHALL BE DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL HANDLE THE FIRST 46 INCHES OF DEPTH FOR THE POLE FOUNDATION OR CONDUIT RUN.

CONTRACTOR SHALL COORDINATE UTILITY LOCATES AND ANY RELOCATIONS AS REQUIRED.
 THE CONTRACTOR SHALL NOTIFY FPL A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY WORK UNDER POWER LINES. ALL SAFETY CLEARANCES TO OVERHEAD CONDUCTORS SHALL BE STRICTLY ADHERED TO.
 CONSTRUCTION SHALL NOT DEVIATE FROM THE APPROVED PLANS. CONTRACTOR SHALL FURNISH COLLIER COUNTY WITH TWO SETS OF "AS-BUILT" PLANS AT THE TIME OF FINAL ACCEPTANCE INSPECTION.

COLLIER COUNTY TRAFFIC OPERATIONS DEPARTMENT
 2885 SOUTH HORSESHOE DRIVE
 FORT MYERS, FL 33914
 (239) 252-6182

PULL BOXES SHALL BE PLACED BEHIND THE CURB AND GUTTER AND CONCRETE SIDEWALK. PULL BOXES SHALL BE QUARTZITE OR EQUIVALENT AND TRAFFIC BEARING.

WHERE TRAFFIC SIGNALS ARE INSTALLED AND NOT PUT ONTO IMMEDIATE SERVICE, THE ENTIRE SIGNAL HEAD SHALL BE CONCEALED WITH A WEATHER RESISTANT COVERING OF NON-TRANSPARENT MATERIAL, OPEN AT THE BOTTOM TO PREVENT CONDENSATION BUILDUP.
 IT HAS BEEN THE EXPERIENCE OF THE DEPARTMENT WITH PROJECTS CONSTRUCTED WITHIN THIS GENERAL GEOGRAPHIC AREA, THAT ALTHOUGH PRELIMINARY BORINGS DID NOT INDICATE A CONSTANT PRESENCE OF ROCK, ROCK WAS ENCOUNTERED WHILE PERFORMING UNDERGROUND INSTALLATIONS. THEREFORE, THE CONTRACTOR SHOULD CONSIDER THE INCREASED COST ON ALL UNDERGROUND WORK ACTIVITIES WHILE PREPARING HIS BID. ALL COSTS OF ROCK EXCAVATION SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF WORK ASSOCIATED WITH THE SPLITTING, EXCAVATION, CRUSHING, DISPOSAL, REPLACEMENT OR VOLUME OF EXTRACTED ROCK WITH FILL MATERIAL OR SPECIAL HANDLING OF ROCK.

INSTALL CONDUIT UNDER PROPOSED ROADWAY AND/OR SIDEWALK PRIOR TO INSTALLATION OF ROADWAY BASE AND SURFACE OR CONCRETE. SIGNAL CABLE CONDUIT SHALL BE 3" POWER SERVICE 1 1/2" EARTH GROUND 3/4". ALL OTHERS 2".

COAT ALL CONDUIT THREADS WITH AN ANTI-SIZE LUBRICANT.

USE RIGID GALVANIZED CONDUIT (HEAVY-WALL) FOR ABOVE GROUND INSTALLATIONS WITH A MINIMUM OF SIX INCHES UNDERGROUND.

PROJECT ENGINEER IS TO COORDINATE FINAL LOCATION OF PUSH BUTTONS AND CONDUIT IN FIRE STATION WITH STATION PERSONNEL. THE FLASHING OPERATION TO BE TERMINATED BY AN ACTION FROM THE FIRE STATION WITH A MINIMUM OF 4.8 SECONDS OF STEADY YELLOW FLASHING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMISSIONS FROM THE FIRE STATION, MAINTAINING PRACTICE RUNS OF THE EMERGENCY VEHICLES. THIS SHALL BE COORDINATED BY THE CONTRACTOR WITH THE FIRE STATION, MAINTAINING AGENCY, AND PROJECT ENGINEER.

TRAFFIC SIGNAL INSTALLATION SHALL MEET THE COLLIER COUNTY SIGNALIZATION TECHNICAL SPECIAL PROVISIONS DATED MAY, 2015.
 ALL DAY ITEMS SHALL CONFORM TO THE FOOT APPROVED PRODUCT LIST AND THE COLLIER COUNTY SIGNALIZATION TECHNICAL SPECIAL PROVISIONS DATED MAY, 2015.

THE LOCATIONS OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED V-VI AND VII) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATION/ ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN POINTS HAVE NOT BEEN VERIFIED.

THE CONTRACTOR TO NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY THROUGH SUNSHINE ONE CALL OF FLORIDA INC. AT LEAST SEVEN WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.

UTILITY/ AGENCY CONTACTS:

COLLIER COUNTY TRAFFIC OPERATIONS
 TONY ZAWACY
 2885 SOUTH HORSESHOE DRIVE
 FORT MYERS, FL 33914
 (239) 252-6182

FPL
 TIM FOLEY
 1470 RENEUE SW
 NAPLES, FL 34116
 (239) 415-1319

COMCAST
 MARK COOK
 2000 CARGO STREET
 BONITA SPRINGS, FL 34135
 (239) 732-3605

TECO PEOPLES GAS
 MARILYN ALOR
 5810 ENTERPRISE PARKWAY
 COVINGTON, FL 33005
 (239) 684-5517

PAY ITEM NOTES

6302-11 & 6302-12:
 PAYMENT SHALL INCLUDE THE COST OF TRENCHBORER AND ALL CONDUITS IN TRENCHBORER. NO ADDITIONAL PAYMENT WILL BE MADE FOR MULTIPLE RUNS OF CONDUIT WITHIN A TRENCH OR BORE.

SIGNAL CONDUITS CROSSING ALL STREETS SHALL BE A MINIMUM OF THREE (3) EACH THREE (3) INCH PVC CONDUITS.
 6327-1:
 THE COLOR CODE OF SIGNAL CABLE SHALL BE VERIFIED WITH THE MAINTAINING AGENCY PRIOR TO WIRING INTERSECTION. THIS ITEM SHALL INCLUDE ALL LABOR AND WIRE NECESSARY FOR COMPLETE WIRING OF THE INTERSECTION.

USE "1-19" (MINIMUM 5 CONDUCTOR) CABLE FROM TRAFFIC SIGNAL CONTROLLER TO PUSH BUTTON IN FIRE STATION.
 6352-1:
 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.

USE QUARTZITE CONSTRUCTION PULL BOXES WITH QUARTZITE COVERS WITH LOGO LOAD RATED A MINIMUM OF 20,000 LBS.
 639-1-121:
 THE COMPANY PROVIDING ELECTRICAL POWER SERVICE TO DETERMINE IF A SERVICE PROCESSING OR CONNECTION FEE IS REQUIRED. THE COST OF ANY SUCH FEE SHALL BE INCLUDED AS PART OF PAYMENT FOR ELECTRICAL POWER SERVICE ASSEMBLY.

639-2-1:
 PAYMENT SHALL BE BASED ON THE LINEAR FOOT OF A SINGLE CONDUCTOR.
 649-31-189:
 USE THREE 2" AND ONE 3/4" CONDUITS STUBBED OUT THROUGH THE MAST ARM POLE FOUNDATION AND TEMPORARILY SEAL.
 ALL MAST ARM ASSEMBLIES SHALL HAVE A TERMINAL COMPARTMENT.

MAST ARM ASSEMBLIES SHALL BE GALVANIZED STEEL. MAST ARM ASSEMBLIES SHALL BE PAINTED "ENGLISH IVY" EQUAL TO AMERON COATING PSX 70013 COLOR NUMBER S10007-211. FINISH COLOR SHALL BE FEDERAL CODE COLOR RAL 6005. A PAINT SAMPLE SHALL BE PROVIDED TO THE COUNTY FOR APPROVAL.

TOP OF FOUNDATIONS ADJACENT TO AND WITHIN SIDEWALKS SHALL BE FLUSH WITH SIDEWALK.
 CONTRACTOR SHALL FIELD VERIFY ALL BASE POLE ELEVATIONS PRIOR TO ORDERING POLES.

652-1-14:
 USE LOCKERED ALUMINUM SIGNAL HEAD BACK PLATES WITH A 2" YELLOW REFLECTORIZED (TYPE III REFLECTIVITY) OUTER EDGE BORDER AS INDICATED ON PLAN SHEET.

BACK PLATES TO BE ONE-PIECE ALUMINUM.
 RIGID MOUNT TRAFFIC SIGNAL HEADS TO MAST ARMS UTILIZING STAINLESS STEEL WIRE ROPE CABLE.
 ALL SIGNAL HEADS ARE TO BE MOUNTED HORIZONTALY.

663-1-111:
 SIGNAL PRIORITY AND PREEMPTION SYSTEM. THIS PAY ITEM SHALL INCLUDE ALL LABOR AND MATERIALS FOR COMPLETE INSTALLATION OF ALL OPTIDOM EMERGENCY PREEMPTION AND RELATED DEVICES NECESSARY FOR FUNCTIONAL OPERATION OF PREEMPTION PLANS.

670-5-111:
 CONTROLLER BASE SHALL BE POLYMER CONCRETE CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. BASE SHALL HAVE A TWELVE (12") BED OF PEAROCK OR CRUSHED STONE FOR DRAINAGE. CONDUIT STUBS SHALL BE SIX (6) INCHES (6") TO TWELVE (12) INCHES (12") BELOW THE ACCESS HOLE IN THE CABINET PAD. A SERVICE SLAB SHALL BE THE WIDTH OF CABINET BASE AND SHALL EXTEND OUT THIRTY (30") INCHES (30"). THIS ITEM SHALL INCLUDE ADDITIONAL COST OF CONCRETE, LABOR AND OTHER MATERIALS FOR CONTROLLER BASE, PAD AND STEPS AS REQUIRED.

CONTRROLLER CABINET SHALL BE COMPATIBLE WITH THE EXISTING COLLIER COUNTY SYSTEM. ALL LABOR AND MATERIALS (INCLUDING THE INTERFACE PANEL AND LIGHTNING ARRESTORS) NECESSARY FOR A COMPLETE AND ACCEPTED INSTALLATION SHALL BE INCLUDED IN THE PRICE FOR A CONTROLLER.

THE ELEVATION AT THE TOP OF THE CONTROLLER ASSEMBLY CONCRETE FOUNDATION SHALL BE EQUAL TO THE CROWN OF THE ROADWAY.
 685-1-13:
 INCLUDE A CLARY SP2000 LX UNINTERRUPTED POWER SUPPLY UNIT (UPS) WITH SNMP OPTION PROVIDING TCP/IP CAPABILITY TO INTERNET OR APPROVED EQUIVALENT. (SEE COLLIER COUNTY TECHNICAL SPECIAL PROVISIONS, DATED MAY, 2015) AT EACH UPS UNIT TO THE OUTSIDE OF THE CONTROLLER CABINET. INSTALL UPS UNIT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. UPS EQUIPMENT TO BE COMPATIBLE WITH MAINTAINING AGENCY EXISTING SYSTEM.

NOT FOR CONSTRUCTION
 IMMOKALEE ROAD FIRE STATION 42
 GENERAL NOTES

TRANSPORTATION CONSULTANTS, INC. CERTIFICATE OF AUTHORIZATION: #27003
 2726 OAK RIDGE COURT, SUITE 909
 FORT MYERS, FL 33911-5556
 (239) 375-3000

MAY 3, 2017

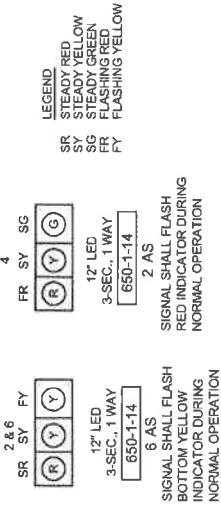
DESIGNED BY: R.C.F.
 DRAWN BY: W.L.F.
 CHECKED BY: R.C.F.
 APPROVED BY: P.E. #493

DATE: BY: REVISIONS

JOB NO. F1608.1.0

SHEET NO. T-3

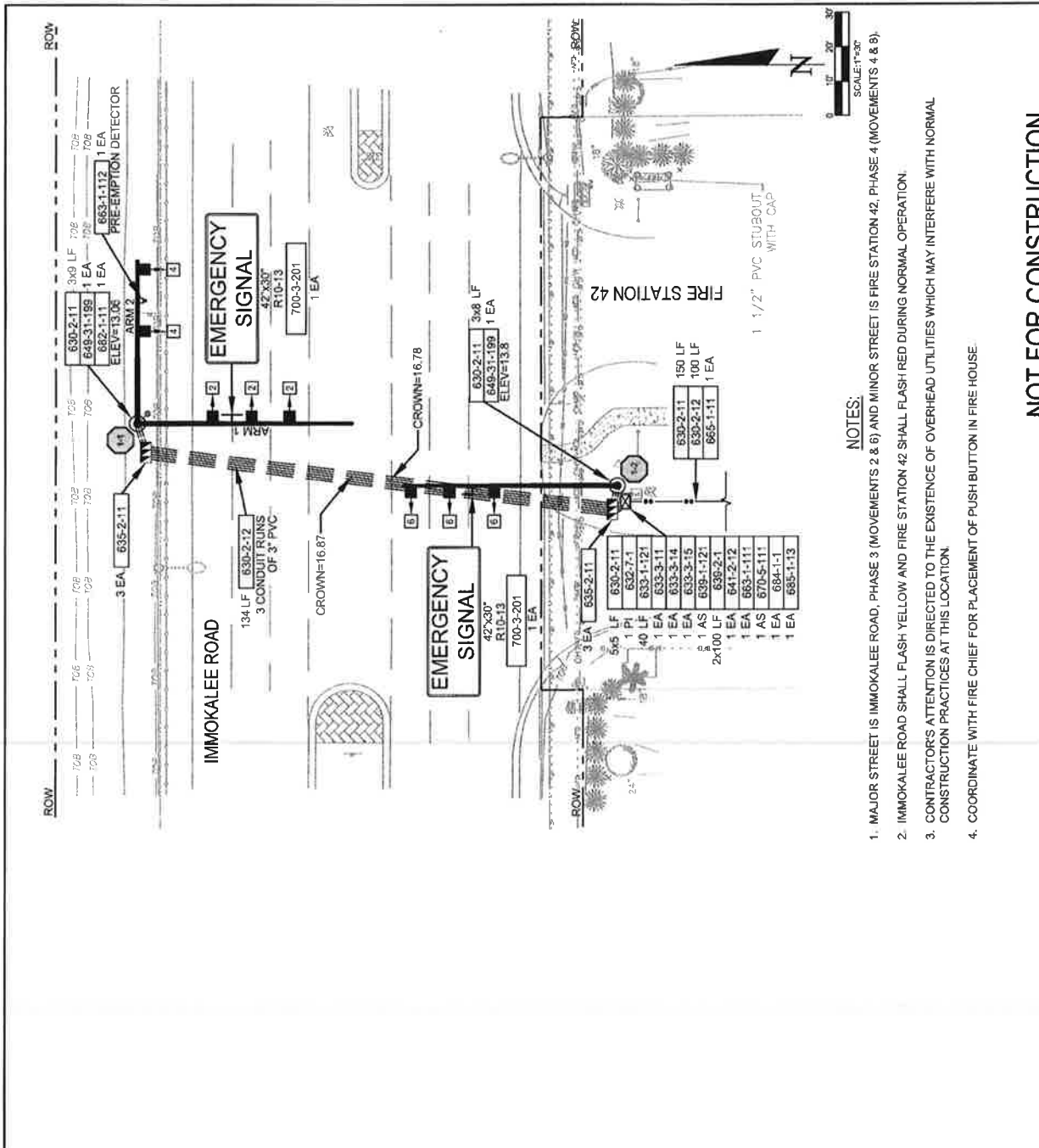
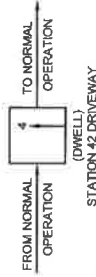
SIGNAL DETAILS



PRE-EMPTION TIMINGS	
MINIMUM GREEN BEFORE PRE-EMP.	10
YELLOW CLEARANCE	4.8
ALL RED CLEARANCE	2.0
MINIMUM DWELL	30
YELLOW CLEARANCE	4.0
ALL RED CLEARANCE	2.0

POP (SPECIAL)

MOVEMENTS 2 & 6 SHALL FLASH YELLOW DISPLAY DURING NORMAL OPERATION. MOVEMENTS 2 & 6 SHALL DISPLAY SOLID RED AFTER CLEARANCE PHASE AND DURING PRE-EMPTION DWELL TIME. MOVEMENT 4 SHALL DISPLAY GREEN DURING PRE-EMPTION AND AFTER 2 & 6 HAVE COMPLETED CLEARANCE AND IS DISPLAYING RED.



NOTES:

1. MAJOR STREET IS IMMOKALEE ROAD, PHASE 3 (MOVEMENTS 2 & 6) AND MINOR STREET IS FIRE STATION 42, PHASE 4 (MOVEMENTS 4 & 8).
2. IMMOKALEE ROAD SHALL FLASH YELLOW AND FIRE STATION 42 SHALL FLASH RED DURING NORMAL OPERATION.
3. CONTRACTOR'S ATTENTION IS DIRECTED TO THE EXISTENCE OF OVERHEAD UTILITIES WHICH MAY INTERFERE WITH NORMAL CONSTRUCTION PRACTICES AT THIS LOCATION.
4. COORDINATE WITH FIRE CHIEF FOR PLACEMENT OF PUSH BUTTON IN FIRE HOUSE.

NOT FOR CONSTRUCTION

JOB NO. F-1608-10	DATE	REV. TO	DESIGNED BY R.C.F.	DRAWN BY W.L.F.	CHECKED BY R.C.F.	APPROVED BY R.E.O. ELLINGS P.E. 6167	MAY 3, 2017	TRANSPORTATION R CONSULTANTS, INC.	2726 OAK RIDGE COURT, SUITE 603 FORT MYERS, FLORIDA 33907-9256 (239) 778-3090 CERTIFICATE OF AUTHORIZATION #272043	IMMOKALEE ROAD FIRE STATION 42	SHEET NO. T-4
										SIGNALIZATION PLAN	

TABLE OF SIGNAL STRUCTURE VARIABLES

LOCATION	STRUCTURE NUMBER	FIRST ARM			FIRST ARM EXTENSION			SECOND ARM			SECOND ARM EXTENSION			POLE										
		FA(ft)	FB(m)	FC(in)	FE(ft)	FF(m)	FG(in)	FH(m)	IA(ft)	IB(m)	IC(in)	SE(ft)	SF(m)	SG(in)	SH(m)	UA(ft)	UB(m)	UC(in)	UD(m)	UE(in)	UF(deg)	UG(ft)		
1	1-1	35.8	7.99	13	0.1793	26.2	12.37	16	0.375	36.1	8.95	14	0.1793	11.9	13.37	15	0.313	28	25.1	22.08	26	0.375	-	-
1	1-2	35.8	7.99	13	0.1793	26.2	12.37	16	0.375									27	24.3	17.22	21	0.375	-	-

TABLE OF SIGNAL STRUCTURE VARIABLES (CONT.)

STRUCTURE NUMBER	FIRST ARM CONNECTION (in)			First Arm Camber Angle = 2 Degrees			SECOND ARM CONNECTION (in)			Second Arm Camber Angle = 2 Degrees														
	#Boles	HT	HT	FJ	FK	FL	FN	FO	FP	FR	FS	FT	#Boles	HT	HT	SJ	SK	SL	SN	SO	SP	SR	SS	ST
1-1	6	30	36	3	0.75	0.438	22	1.25	2	12.5	0.438	6	30	36	3	0.75	0.438	22	1.25	2	12.5	0.438		
1-2	6	30	36	3	0.75	0.438	22	1.25	2	12.5	0.438													

TABLE OF SIGNAL STRUCTURE VARIABLES (CONT.)

STRUCTURE NUMBER	POLE BASE CONNECTION (in)			SHAFT AND REINF.			LUMINAIRE AND LUMINAIRE CONNECTION																
	#Boles	BA	BB	BC	BD	BE	DA(ft)	DB(ft)	RA	RB	RC	RD	LA(ft)	LB(ft)	LC(in)	LD(m)	LE	LF(ft)	LG(m)	LH(in)	LI(m)	LL(deg)	
1-1	6	42	2.5	2	40	2	17	5	11	18	10	8											45
1-2	6	37	2.5	2	40	2	15	4.5	11	16	10	8											

- NOTES:
1. Work with Index Nos. 17745.
 2. Design Wind Speed = 150 mph
 3. Contractor shall coordinate anchor bolt requirements with fabricator.
 4. Contractor shall identify Structure Numbers and submit detailed shop drawings.

FOUNDATION NOTES:

1. Assumptions and Values used in design:
 - Soil Type cohesionless (fine sand)
 - Soil Friction Angle = 30 degrees
 - Soil Weight = 50.0 pcf (assumed saturated)

CONTRACTOR SHALL FIELD VERIFY POLE BASE AND ROADWAY CROWN ELEVATIONS PRIOR TO ORDERING MAST ARM ASSEMBLIES

NOT FOR CONSTRUCTION