

STATE OF TEXAS §
 §
COUNTY OF FORT BEND §

**THIRD AMENDMENT TO AGREEMENT FOR
PROFESSIONAL ENGINEERING SERVICES**

THIS THIRD AMENDMENT, is made and entered into by and between Fort Bend County (hereinafter “County”), a body corporate and politic under the laws of the State of Texas, and PGAL, (hereinafter “Contractor”), a company authorized to conduct business in the State of Texas.

WHEREAS, the parties executed and accepted that certain Agreement for Professional Engineering Services on August 28, 2018, (hereinafter “Agreement”) for Services to be provided under the Fort Bend County 2017 Mobility Bond Program – Owens Road (John Sharp Drive) Segment 2 – Project No. 17407, as amended by document executed on September 10, 2019 (the “First Amendment”), and further amended by document executed on November 9, 2021 (the “Second Amendment”), pursuant to SOQ 14-025; and

WHEREAS, the parties desire to further amend the Agreement for additional professional engineering and surveying Services to be provided, increase the total Maximum Compensation available to perform the Services, to extend the Time of Performance, and to otherwise ratify and confirm all the terms and conditions as set forth herein.

NOW, THEREFORE, the parties do mutually agree as follows:

1. County shall pay Contractor an additional one hundred thirteen thousand eight hundred eighty-eight dollars and no/100 (\$113,888.00) to render additional Services to County as described in the Fee Proposal attached as Exhibit “A” hereto and incorporated herein for all purposes; and
2. The Maximum Compensation payable to Contractor for all Services rendered under the Agreement and this Amendment is hereby increased to an amount not to exceed four hundred eighty-five thousand seven hundred thirty-five dollars and no/100 (\$485,735.00), authorized as follows:

\$334,916.00 under the Agreement;
\$ 8,831.00 under the First Amendment;
\$ 28,100.00 under the Second Amendment;
and \$113,888.00 under this Third Amendment.

3. In no case shall the amount paid by County for all Services under the Agreement and this Amendment exceed the Maximum Compensation without written amendment executed by the parties.
4. Time for performance of Services under the Agreement shall be extended to end no later than December 31, 2027. The Parties acknowledge and agree that Services were and will be supported by good and valuable consideration during this extended Term of this Agreement, the sufficiency of which is acknowledged by the Parties.
5. Certain State Law Requirements for Contracts. For purposes of Sections 2252.152, 2271.002, and 2274.002, Texas Government Code, as amended, Contractor hereby verifies that Contractor and any parent company, wholly owned subsidiary, majority-owned subsidiary, and affiliate:
 - A. Unless affirmatively declared by the United States government to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization, is not identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 806.051, 807.051, or 2252.153 of the Texas Government Code.
 - B. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Contractor does not boycott Israel and is authorized to agree in such contracts not to boycott Israel during the term of such contracts. "Boycott Israel" has the meaning provided in section 808.001 of the Texas Government Code.
 - C. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Contractor does not boycott energy companies and is authorized to agree in such contracts not to boycott energy companies during the term of such contracts. "Boycott energy company" has the meaning provided in section 809.001 of the Texas Government Code.
 - D. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Contractor does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and is authorized to agree in such contracts not to discriminate against a firearm entity or firearm trade

association during the term of such contracts. “Discriminate against a firearm entity or firearm trade association” has the meaning provided in section 2274.001(3) of the Texas Government Code. “Firearm entity” and “firearm trade association” have the meanings provided in section 2274.001(6) and (7) of the Texas Government Code.

6. Human Trafficking

BY ACCEPTANCE OF AGREEMENT, CONTRACTOR ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

{Execution Page Follows}

{Remainder of Page Intentionally Left Blank}

Except as provided herein, all terms and conditions of the Agreement and the Amendment shall remain unchanged.

FORT BEND COUNTY

KP George, County Judge

Date

ATTEST:

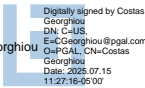
Laura Richard, County Clerk

APPROVED:



J. Stacy Slawinski, P.E., County Engineer

PGAL


Costas Georghiou

Authorized Agent – Signature

Costas Georghiou

Authorized Agent – Printed Name

Principal

Title

July 15, 2025

Date

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of \$_____ to accomplish and pay the obligation of Fort Bend County under this contract.

Robert Ed Sturdivant, County Auditor

I:\AGREEMENTS\2025 Agreements\Engineering\PGAL (19-Eng-500021-A3)\Third Amendment to Agreement for Professional Engineering Services -- PGAL.docx.7/3/2025 DRP

EXHIBIT A

May 1, 2025

Stacy Slawinski, PE
Fort Bend County Engineer
301 Jackson St.
Richmond, Texas 77469

ALEXANDRIA
ATLANTA
AUSTIN
BOCA RATON
CHICAGO
DALLAS
HOBOKEN
HOUSTON
LAS VEGAS
LOS ANGELES

Attention: Robert T. McBride, PE

Ref: John Sharp Road Segment 2; Project No. 17407;
Fee proposal for intersection design update.

Dear Robert:

As discussed, PGAL is pleased to submit this updated fee proposal for the intersection design update necessitated by TxDOT comments. Attached is the manhour breakdown of the required additional effort level. The following is a summary of the proposed effort:

Project Management/ Coord. Sugarland & Developer	(Lump Sum)	\$ 15,156.00
Final Design	(Lump Sum)	\$ 29,270.00
Additional Services (TxDOT Permitting Exhibits)	(Hourly)	\$ 3,756.00
Signal Design (Epic Transportation)	(Lump Sum)	\$ 12,956.00
Right-of-Way re-staking	(Lump Sum)	\$ 2,750.00
Construction Phase Services budget		<u>\$ 50,000.00</u>
TOTAL		\$113,888.00

Attached please find proposal from Epic Transportation Group for your review.

We are also requesting a time extension to the proposed date of 12/31/2027. We very much appreciate the opportunity to continue working for Fort Bend County in executing this critically important project for Precinct 4 and are ready to meet and discuss any comments at your convenience.

Very truly yours,



Costas Georghiou, PE
Principal

attachments

**FORT BEND COUNTY
2017 MOBILITY PROJECTS
JOHN SHARP ROAD SECTION 2
INTERSECTION REDESIGN EFFORT LEVEL (MARCH 6, 2025)**

TASK	MHRS PROJECT MANAGER	MHRS SENIOR ENGINEER	MHRS ENGINEER	MHRS EIT	MHRS CLERICAL	TOTAL COST
	\$ 324	\$ 205	\$ 165	\$ 114	\$ 84	
PROJECT MANAGEMENT	8	4	0	0	0	\$ 3,412.00
COORDINATION WITH TRAFFIC SIGNAL DESIGN	1	6	0		0	\$ 1,554.00
COORDINATION WITH ADJACENT CONSULTANTS	2	8	0	0	0	\$ 2,288.00
INTERSECTION LAYOUT REVISIONS	1	4	8	0	0	\$ 2,464.00
PAVEMENT GEOMETRICS LAYOUT	1	0	8		0	\$ 1,644.00
SHEET UPDATES	1	8	0	16		\$ 3,788.00
QUANTITY ESTIMATES	1	2	4	0		\$ 1,394.00
PROJECT MANUAL	0	2	4	0		\$ 1,070.00
CITY OF SUGARLAND COORDINATION	12	24				\$ 8,808.00
DEVELOPER COORDINATION	4	8				\$ 2,936.00
UTILITY COORDINATION AND CONFLICT TABLE	2	8	12	0		\$ 4,268.00
TxDOT REVIEWS AND COORDINATION	4	8	16			\$ 5,576.00
TxDOT PERMIT EXHIBITS AND COORDINATION	4	12				\$ 3,756.00
GCWA COORDINATION AND PERMITTING	6	16				\$ 5,224.00
	47	110	52	16	0	
						\$ 48,182.00

February 26, 2025



COSTAS GEORGHIOU PE
Principal

Houston
Tel: 713-622-1444

Re: Fort Bend County 2017 Mobility Bond Program
Project Number 17407
John Sharp Drive - Section 2, Fort Bend County Precinct 3
John Sharp Drive at FM 1464 Traffic Signal - Supplemental Fee Proposal

Dear Costas:

EPIC Transportation Group, LP (EPIC) appreciates the opportunity to submit this supplemental proposal for engineering services to Fort Bend County (FBC) and PGAL related to John Sharp Drive reconstruction in Precinct 3.

The original sealed/signed set of traffic signal layouts for the subject intersection were prepared by EPIC and submitted to FBC on 10/26/2022. Since TxDOT will now be maintaining the signal, and not FBC, TxDOT has requested certain design changes to remain consistent with its current criteria, standards and specifications.

TRAFFIC SIGNAL DESIGN

EPIC shall prepare all work in accordance with the latest version of the applicable TxDOT Houston District specifications, standard drawings, notes, design guidelines etc., and based on comments received. See Attachment A at the back of this proposal for pertinent comments from TxDOT.

Following are the anticipated sheets:

- Construction Notes and Traffic Signal Notes - Update
- Traffic Signal Summary - Revise
- Existing Conditions Layout - New
- Proposed Signal Layouts - Revise
- Standard Detail Drawings - Update as required

EXCLUSIONS

The following services are not part of this supplemental scope:

- Survey – PGAL will provide updated survey, if any, through one of its sub-consultants.
- Signing and pavement markings design.
- Pedestrian wheel chair ramp design.
- Geotechnical engineering.
- Temporary signalization during construction.
- Signal timing.
- Expert testimony.
- Construction Phase services.

SCHEDULE

EPIC shall follow the schedule developed by PGAL for this supplemental work and agreed by FBC/TxDOT for this project. EPIC is assuming there is adequate time for review and coordination in the proposed schedule.

ADDITIONAL SERVICES

Any work beyond the Scope is considered additional, and is subject to negotiation.

COMPENSATION

Please see Exhibit D – Fee Schedule for further details on the supplemental man-hours and cost breakdown. The fee includes all labor and non-labor reimbursable expenses required for this project.

Please let me know if you have any questions regarding this supplemental proposal.

Sincerely,
EPIC Transportation Group, LP



Harish Narayanappa, P.E., PTOE
President

Attachments:
Exhibit D – Supplemental Fee Schedule
Attachment A – TxDOT's Comments on Original Design

EXHIBIT D - SUPPLEMENTAL FEE SCHEDULE

PROJECT NAME: JOHN SHARP DRIVE
FORT BEND COUNTY PROJECT NO.: 17407
INTERSECTION: JOHN SHARP DRIVE AT FM 1464
SUBPROVIDER NAME: EPIC TRANSPORTATION GROUP, LP

TASK DESCRIPTION	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR PROJECT ENGINEER	GRADUATE ENGINEER	CADD TECHNICIAN	ADMIN/ CLERICAL	TOTAL HRS. & COSTS	COST PER TASK	NO OF DWGS	HRS PER SHEET
CONTRACT RATE PER HOUR	\$300.00	\$285.00	\$245.00	\$164.00	\$143.00	\$107.00				
SIGNALIZATION (FC 162)										
Revise Traffic Signal Summary				4	2		6	\$ 942.00	1	6
Update Traffic Signal Notes			2		2		4	\$ 776.00	2	2
Existing Condition Layout			2	8	12		22	\$ 3,518.00	1	22
Revise Proposed Signal Layouts		2	4	8	16		30	\$ 5,150.00	4	8
HOURS SUB-TOTALS	0	2	8	20	32	0	62		9	
SUBTOTAL (FC 162)	\$0.00	\$570.00	\$1,960.00	\$3,280.00	\$4,576.00	\$0.00	\$10,386.00	\$10,386.00		
PROJECT MANAGEMENT AND ADMINISTRATION (FC 164)										
Coordination with Prime/Meetings		2					2	\$ 570.00	N/A	N/A
Prepare Monthly Invoices and Progress Reports		2				2	4	\$ 784.00	N/A	N/A
Field Visit/Utility Coordination			2	4			6	\$ 1,146.00	N/A	N/A
HOURS SUB-TOTALS	0	4	2	4	0	2	12			
SUBTOTAL (FC 164)	\$0.00	\$1,140.00	\$490.00	\$656.00	\$0.00	\$214.00	\$2,500.00	\$2,500.00		
TOTAL HOURS	0	6	10	24	32	2	74			
CONTRACT RATE PER HOUR	\$300.00	\$285.00	\$245.00	\$164.00	\$143.00	\$107.00				
SUBTOTAL LABOR EXPENSES	\$0.00	\$1,710.00	\$2,450.00	\$3,936.00	\$4,576.00	\$214.00	\$12,886.00			
DIRECT EXPENSES	QUANTITY	UNIT	RATE				TOTAL			
Mileage	100	MILE	\$0.700				\$ 70.00			
SUBTOTAL DIRECT EXPENSES							\$ 70.00			
TOTAL							\$12,956.00			

DATE: 10/26/2022 10:06:09 AM
FILE: ...CADD\PR-JS-SIGNOTES.dgn


TRAFFIC SIGNAL GENERAL NOTES:

1. INSTALL SIGNS & SIGNALS HORIZONTALLY ON MAST ARM 17 FT.-6 IN. MINIMUM ABOVE THE ROADWAY.
2. FURNISH BLACK HOUSING FOR VEHICLE SIGNALS WITH 12 IN. LENS AND RETRO-REFLECTIVE BACKPLATES.
3. TRAFFIC SIGNAL STRAIN POLES AND MAST ARMS SHALL BE STANDARD GALVANIZED.
4. FURNISH VEHICLE AND COUNTDOWN PEDESTRIAN SIGNALS WITH LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS.
5. SYMBOLIC PEDESTRIAN SIGNAL HEAD SHALL BE LED AUDIBLE PEDESTRIAN AND 12-IN. COUNTDOWN.
6. USE DIAMOND GRADE RETROREFLECTIVE SHEETING FOR SIGNS MOUNTED UNDER OR ADJACENT TO THE SIGNAL HEADS.
7. FURNISH SYMBOL TYPE PEDESTRIAN COUNTDOWN SIGNALS. INSTALL USING MOUNTING HEIGHT IN ACCORDANCE WITH THE LATEST "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
8. FURNISH MATERIALS NECESSARY TO INSTALL ACCESSIBLE PEDESTRIAN UNITS (SEE FBC APPROVED TRAFFIC SIGNAL EQUIPMENT LIST) AS SHOWN IN THE PLANS. INSTALL PUSH BUTTON AT 3 FT.-3 IN. TO 4 FT.-0 IN. ABOVE THE SIDEWALK OR CONCRETE WALKWAY.
9. ROUTE CABLE FOR LUMINAIRES (4/C NO. 12 TRAY CABLE) TO THE SERVICE ENCLOSURE. SEE ELECTRICAL DETAILS SHEET.
10. INSTALL FULL-ACTUATED, ETHERNET-CAPABLE CONTROLLER WITH INTERNAL TIME-BASED COORDINATION UNIT AND COMMUNICATION IN A BASE MOUNTED CABINET. SEE FBC APPROVED TRAFFIC SIGNAL EQUIPMENT LIST.
11. LOCATE CONTROLLERS, STEEL POLES, DETECTION ZONES AS APPROVED BY FORT BEND COUNTY IN THE FIELD.
12. REPAIR OR REPLACE PAVEMENT AND SIDEWALKS DAMAGED BY THE CONTRACTOR'S FORCES DURING CONSTRUCTION AT NO COST TO FORT BEND COUNTY.
13. FURNISH AND INSTALL DUCT SEAL TO ENCLOSE THE ENDS OF EACH CONDUIT CONTAINING SIGNAL CABLE.
14. THE CONTRACTOR SHALL INSTALL A CLOSED NIPPLE WITH LOCK NUT AND BUSHING (SIZE AS REQUIRED) TO PREVENT ABRASION TO SIGNAL CABLE WHERE THE CABLE ENTERS THE UPPER PORTION OF THE SIGNAL POLE.
15. DO NOT PLACE SIGNAL HEADS OVER THE ROADWAY UNTIL ALL NECESSARY MATERIALS ARE ON HAND AS APPROVED.
16. INSTALL TWO SET SCREWS ON ALL VEHICLE SIGNAL HEAD MOUNTING HARDWARE FITTINGS.
17. WRAP SIGNAL HEADS WITH DARK PLASTIC OR SUITABLE MATERIAL TO CONCEAL THE SIGNAL FACES FROM THE ITEM OF INSTALLATION UNTIL PLACING INTO OPERATION. DO NOT USE BURLAP.
18. LUMINAIRES MOUNTED ON TRAFFIC SIGNAL POLES SHALL BE IN COMPLIANCE WITH TXDOT STANDARDS.
19. PROVIDE LIGHT-EMITTING DIODE (LED) LUMINAIRES EQUIVALENT TO "250-WATT HIGH PRESSURE SODIUM" LUMINAIRES, OPERATING AT 240 VOLTS.
20. WORK IN THE CONTROLLER CABINET SHALL INCLUDE INSTALLING THE EQUIPMENT AND PERFORMING THE WORK NECESSARY TO CONNECT AND OPERATE THE RVDS SYSTEM AT THE INTERSECTION.
21. MANUFACTURER'S REPRESENTATIVE OF THE RVDS EQUIPMENT SUPPLIED FOR THIS PROJECT MUST SUPERVISE THE INSTALLATION, SETUP AND TESTING OF THIS EQUIPMENT BY A FACTORY CERTIFIED REPRESENTATIVE. THE REPRESENTATIVE MUST BE ON SITE DURING THIS TIME. ANY EQUIPMENT REQUIRED FOR SETUP AND OPERATION OF THE RVDS SYSTEM MUST BE PROVIDED TO FORT BEND COUNTY UPON COMPLETION. MANUFACTURER'S REPRESENTATIVE MUST PROVIDE TRAINING TO WHO WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE RVDS EQUIPMENT AFTER ACCEPTANCE OF THE PROJECT.
22. THE CONTRACTOR SHALL FOLLOW MANUFACTURER SPECIFICATIONS FOR RVDS SYSTEM INSTALLATION.
23. INSTALL A 5/8-IN. (MINIMUM) EYE BOLT FOR THE POINT OF ATTACHMENT BELOW THE SERVICE ENTRANCE WEATHERHEAD FOR THE SERVICE DROP (120/240 VOLT SERVICE) TO STEEL POLE.
24. GROUND STEEL MAST ARM POLE ASSEMBLIES IN ACCORDANCE WITH REQUIREMENTS SHOWN ON THE LATEST TXDOT TRAFFIC SIGNAL POLE FOUNDATION STANDARD. USE THE GROUNDING LUG ON THE POLE TO GROUND THE POLE TO THE GROUND CONDUCTORS FROM THE CONDUITS.
25. VERIFY THE CORRECT MAST ARM POLE LENGTHS FOR THIS SIGNALIZED INTERSECTION PRIOR TO ORDERING THE EQUIPMENT.
26. ELECTRICAL POWER TO OPERATE THE TRAFFIC SIGNAL INSTALLATION WILL BE PLACED IN THE COUNTY'S NAME. THIS INCLUDES ALL POWER TO OPERATE THE SIGNAL DURING THE VARIOUS PHASES OF CONSTRUCTION AND DURING THE TEST PERIOD PRIOR TO ACCEPTANCE OF THE WORK BY FORT BEND COUNTY.
27. INSTALL PEDESTRIAN SIGNAL POLES WITH CONCRETE FOUNDATION.
28. THE ENGINEER WILL PROVIDE PHASING AND TIMINGS FOR TEMPORARY AND PERMANENT TRAFFIC SIGNALS.
29. EXISTING STOP SIGNS AND SCHOOL CROSSING ASSEMBLIES AT THE INTERSECTION SHALL BE REMOVED AND RETURNED TO FORT BEND COUNTY.
30. ALL TRAFFIC SIGNAL POLE FOUNDATION LOCATIONS SHALL BE APPROVED BY THE ENGINEER OR REPRESENTATIVE IN THE FIELD PRIOR TO DRILLING.

need TxDOT Houston District notes.


Update to 2024 specifications

ATTACHMENT B




FORT BEND
COUNTY
301 JACKSON STREET
RICHMOND, TEXAS 77469

JOHN SHARP DRIVE
SEGMENT 2
SUGAR LAND CITY LIMIT
TO FM 1464
PROJECT NO. 17407



TBPE FIRM F-11000
TRANSPORTATION GROUP, LP
Engineering • Planning • Infrastructure • Construction
800 Wilcrest Drive, Suite 240, Houston, TX 77042
Ph: (713) 609-9416



HARISH NARAYANAPPA
82041
Professional Engineer
10/26/2022

TRAFFIC SIGNAL NOTES
FM 1464
AT
JOHN SHARP DRIVE

SHEET 1 OF 1


SCALE•HORIZ. : NTS	DRAWN BY: EPIC
VERT. : N/A	APP. BY: EPIC
DATE: 10/26/2022	SHEET NO. 67

DATE: 10/26/2022 10:06:15 AM
FILE: ...\\CADD\\PR-JS-SIGSUM.dgn

ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY
416	6032	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	15
416	6034	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	66
618	6046	CONDT (PVC) (SCHD 80) (2")	LF	145
618	6053	CONDT (PVC) (SCHD 80) (3")	LF	85
618	6058	CONDT (PVC) (SCHD 80) (4")	LF	245
618	6059	CONDT (PVC) (SCHD 80) (4")(BORE)	LF	340
620	6009	ELEC CONDR (NO. 6) BARE	LF	780
620	6011	ELEC CONDR (NO. 4) BARE	LF	30
620	6012	ELEC CONDR (NO. 4) INSULATED	LF	55
621	6005	TRAY CABLE (4 CONDR)(12 AWG)	LF	1045
624	6010	GROUND BOX TY D (162922) W/APRON	EA	4
624	6021	GROUND BOX TY 2 (243636) W/APRON	EA	1
628	6145	ELC SRV TY D 120/240 60 (NS) SS (E) SP (O)	EA	1
680	6003	INSTALL HWY TRF SIG (SYSTEM)	EA	1
*	*	CONTROLLER, FULL ACTUATED W/CABINET	EA	1
*	*	STREET NAME SIGN, "FM 1464" (54" X 18")	SF	13.5
*	*	STREET NAME SIGN, "John Sharp Dr" (90" X 18")	SF	22.5
*	*	SIGN, "LEFT TURN SIGNAL" (48" X 12")	EA	4
*	*	TRAFFIC SIGNAL CONTROLLER FOUNDATION	EA	1
*	*	COPPER CLAD GROUND ROD, 5/8"X10' (CONTROLLER)	EA	1
*	*	MAST ARM DAMPNER	EA	3
*	*	18-INCH CABINET BASE EXTENSION	EA	1
*	*	LED RDWY LUMINAIRE (.25KW HPS EQ)	EA	4
*	*	CELLULAR MODEM	EA	1
*	*	DETECTOR UNIT (DUAL CHANNEL)	EA	1
*	*	DETECTOR CARD RACK (8 SLOT & 4 SLOT)	EA	1


* FOR CONTRACTOR'S INFORMATION ONLY. MATERIALS SUBSIDIARY TO PERTINENT ITEMS.

ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY
682	6001	VEH SIG SEC (12 IN) LED (GRN)	EA	8
682	6002	VEH SIG SEC (12 IN) LED (GRN ARW)	EA	4
682	6003	VEH SIG SEC (12 IN) LED (YEL)	EA	8
682	6004	VEH SIG SEC (12 IN) LED (YEL ARW)	EA	4
682	6005	VEH SIG SEC (12 IN) LED (RED)	EA	8
682	6006	VEH SIG SEC (12 IN) LED (RED ARW)	EA	8
682	6018	PED SIG SEC (12 IN) LED (COUNTDOWN)	EA	8
682	6054	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	8
682	6055	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	4
684	6007	TRF SIG CBL (TY A) (12 AWG) (2 CONDR)	LF	1800
684	6009	TRF SIG CBL (TY A) (12 AWG) (4 CONDR)	LF	1840
684	6012	TRF SIG CBL (TY A) (12 AWG) (7 CONDR)	LF	2450
686	6043	INS TRF SIG PL AM (S) 1 ARM (40') LUM	EA	1
686	6055	INS TRF SIG PL AM (S) 1 ARM (50') LUM	EA	3
687	6001	PED POLE ASSEMBLY	EA	7
*	*	SCREW-IN TYPE ANCHOR FOUNDATION	EA	7
688	6001	PED DETECT PUSH BUTTON (APS)	EA	8
*	*	SIGN, PED. WALK SMB. W/DIR ARROW (R10-3eR) (9"X15")	EA	4
*	*	SIGN, PED. WALK SMB. W/DIR ARROW (R10-3eL) (9"X15")	EA	4
688	6003	PED DETECTECTOR CONTROLLER UNIT	EA	1
6058	6001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	1
6292	6001	RVDS(PRESENCE DETECTION ONLY)	EA	4
*	*	(18 AWG) (2 CONDR) & (22 AWG) (4 CONDR)	LF	1050
6292	6002	RVDS(ADVANCE DETECTION ONLY)	EA	2
*	*	(18 AWG) (2 CONDR) & (22 AWG) (4 CONDR)	LF	600



FORT BEND
COUNTY
301 JACKSON STREET
RICHMOND, TEXAS 77469

JOHN SHARP DRIVE
SEGMENT 2
SUGAR LAND CITY LIMIT
TO FM 1464
PROJECT NO. 17407



TBPE FIRM F-11000

TRANSPORTATION GROUP, LP

Engineering • Planning • Infrastructure • Construction
800 Wilcrest Drive, Suite 240, Houston, TX 77042
Ph: (713) 603-9416

TRAFFIC SIGNAL SUMMARY
FM 1464
AT
JOHN SHARP DRIVE

SHEET 1 OF 1

SCALE•HORIZ.: NTS

DATE:10/26/2022

DRAWN BY: EPIC

APP. BY: EPIC

SHEET NO. 68

Add details for each corner to depict pedestrian details more clearly.

Add existing conditions layout.

Ramps and truncated domes should be directional.

update all crosswalks to continental style

add luminaries to all signal poles

Where is the schedule of signal heads?

Not just conduit runs. Some are only conductor/cable runs. Suggest using "Conduit/Conductor Run". Sheet Sheet 2 of 2 for details.

No leader lines for Pedestrian Push Buttons and Pedestrian Walk Signal Heads.

Partially masked by the crosswalk stripe.

TxODT Houston District unless the County is maintaining the signal.

NOTES:

1. NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT TWENTY FOUR (24) HOURS IN ADVANCE OF BEGINNING CONSTRUCTION AT 281-633-7500 AND WITH WRITTEN NOTIFICATION FORTY EIGHT (48) HOURS IN ADVANCE.
2. CONTRACTOR TO LOCATE AND EXPOSE ANY UTILITIES THAT MAY BE IN CONFLICT WITH THE PROPOSED TRAFFIC SIGNAL POLE FOUNDATION BY HAND EXCAVATION. AN ALTERNATE LOCATION WILL BE DETERMINED IF THERE ARE ANY CONFLICTS.
3. LOCATIONS OF CENTERPOINT FACILITIES ARE APPROXIMATE AND NOT HAVE BEEN VERIFIED IN THE FIELD.
4. ALL LUMINAIRE MAST ARMS TO BE ORIENTED PERPENDICULAR TO THE ADJACENT ROADWAY.
5. LOCATION OF RADAR DETECTORS AND ASSOCIATED EQUIPMENT ARE SHOWN FOR REFERENCE. CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT, QUANTITY, LOCATION AND ADJUSTMENT OF THESE ITEMS WITH THE MANUFACTURER AND FORT BEND COUNTY ENGINEERING DEPARTMENT.

LEGEND

- MAST ARM POLE
- PEDESTAL POLE
- GROUND MOUNTED CONTROLLER
- 8' LUMINAIRE ARM
- SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON/SIGN
- OVERHEAD SIGN
- ELECTRIC SERVICE
- GROUND BOX (TY D)
- GROUND BOX (TY 2)
- CONDUIT
- CONDUIT (BORE)
- DIRECTION OF TRAFFIC FLOW
- RADAR DETECTOR (RVDS) (PRESENCE AND ADVANCE)
- CONDUIT RUN

Add pole to legend.

POSTED SPEED LIMIT:

FM 1464 = 50 MPH
JOHN SHARP DR. = 35 MPH

Add reference note to see sheet 2 of 2 for additional details.

0 20 40
SCALE (IN FEET)



FORT BEND COUNTY
301 JACKSON STREET
RICHMOND, TEXAS 77469

JOHN SHARP DRIVE
SEGMENT 2
SUGAR LAND CITY LIMIT
TO FM 1464
PROJECT NO. 17407

TRANSPORTATION GROUP, LP
Engineering • Planning • Infrastructure • Construction
800 Wilcrest Drive, Suite 240, Houston, TX 77042
PH: (713) 609-9416



10/26/2022

TRAFFIC SIGNAL LAYOUT
FM 1464
AT
JOHN SHARP DRIVE

SCALE: HORIZ. : 1"=40' DRAWN BY: EPIC
VERT. : N/A APP. BY: EPIC
DATE: 10/26/2022 SHEET NO. 69

SHEET 1 OF 2

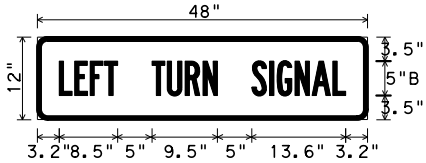
DATE: 10/26/2022
FILE: ...CAD\PR-JS-SIG2.dgn

10:18:52 AM

CONDUIT AND CONDUCTOR RUNS																												
RUN NO.	CONDUIT (618)										CONDUCTORS (620)						TRAY CABLE (621)	CABLES (684)	CABLES (684)				RADAR (6292)		RADAR (6292)			
	PVC										POWER		GROUND				LUMINAIRE	SIGNAL	PEDESTRIAN				PRES. RADAR		ADV. RADAR			
	2" (SCHD 80)		3" (SCHD 80)				4" (SCHD 80)				#4 INSULATED		#4 BARE		#6 BARE		#12/4C Tray Cable		#12/7C		#12/4C		#12/2C		# 18/2C & #22/4C		# 18/2C & #22/4C	
	(6046)		(6053)		(6054)		(6058)		(6059)		(6012)		(6011)		(6009)		(6005)		(6012)		(6009)		(6007)		(Subsidiary)		(Subsidiary)	
	NO.	TRENCH	NO.	TRENCH	NO.	BORE	NO.	TRENCH	NO.	BORE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF
1																		1	30									
2																		2	25									
3			1	25											1	25	1	25	2	25					1	25		
4	1	15													1	15					1	15	1	15				
5	1	10													1	10					1	10	1	10				
6							1	55	1	100					1	155	1	155	2	155	2	155	2	155	1	155		
7	1	20													1	20					1	20	1	20				
8			1	15											1	15	1	15	2	15	1	15	1	15	1	15	1	15
9																		2	25							1	25	
10																		1	10							1	10	
11																		1	25									
12							1	45	1	105					1	150	2	150	4	150	4	150	4	150	2	150	1	150
13			1	20											1	20	1	20	2	20					1	20		
14	1	10													1	10					1	10	1	10				
15	1	10													1	10					1	10	1	10				
16																		2	15									
17																		1	30									
18																		1	20									
19																		1	5							1	5	
20																		2	25							1	25	
21			1	15											1	15	1	15	2	15					1	15	1	15
22	1	10													1	10					1	10	1	10				
23	1	10													1	10					1	10	1	10				
24							1	40	1	100					1	140	1	140	2	140	2	140	2	140	1	140	1	140
25							2	20							2	20			8	20	7	20	7	20	4	20	2	20
26							2	20							2	20			8	20	8	20	8	20	4	20	2	20
27	1	20													1	20	4	20										
28	1	25									2	25	1	25														
POLE 1																	1	50	2	30					1	30		
POLE 2																	1	50	2	30					1	30	1	30
POLE 3																	1	50	2	30					1	30		
POLE 4																	1	50	2	30	1	10	1	5	1	30	1	30
POLE 5																					1	10	1	5				
POLE 6																					1	10	1	5				
POLE 7																					1	10	1	5				
POLE 8																					1	10	1	5				
POLE 9																					1	10	1	5				
POLE 10																					1	10	1	5				
POLE 11																					1	10	1	5				
TOTAL (LF)		130		75		0		220		305		50		25		705		950		2200		1670		1630		950		525

TRAFFIC SIGNAL POLE INFORMATION				
POLE NO.	SIGNAL POLE DESIGNATION	FOUNDATION TYPE/DEPTH	JOHN SHARP DRIVE STATION	OFFSET
1	LMA 50L	48-A/22'	99+06	70' LT
2	LMA 50L	48-A/22'	100+66	83' LT
3	SMA 40L	36-B/15'	100+87	49' RT
4	LMA 50L	48-A/22'	99+41	56' RT
5	PEDESTAL POLE	SCREW-IN ANCHOR	99+29	75' LT
6	PEDESTAL POLE	SCREW-IN ANCHOR	99+36	82' LT
7	PEDESTAL POLE	SCREW-IN ANCHOR	100+64	73' LT
8	PEDESTAL POLE	SCREW-IN ANCHOR	100+70	66' LT
9	PEDESTAL POLE	SCREW-IN ANCHOR	100+69	57' RT
10	PEDESTAL POLE	SCREW-IN ANCHOR	100+63	65' RT
11	PEDESTAL POLE	SCREW-IN ANCHOR	99+35	47' RT
12	ELECTRICAL SERVICE TY D	N/A	100+83	71' RT
	GROUND MOUNTED CONTROLLER	N/A	100+63	79' RT

SIGN SCHEDULE



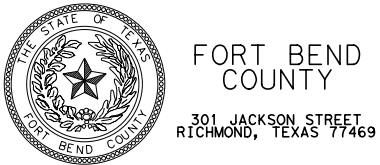
1.5" Radius, 0.5" Border, Black on White;
(LEFT TURN SIGNAL) B;
LEGEND AND BORDER NON REFLECTIVE BLACK
BACKGROUND WHITE TY C HIGH SPECIFIC INTENSITY



R10-3eR
(9"x15")
(ACCESSIBLE
PEDESTRIAN
PUSH BUTTON)
(PB1, PB3, PB5, PB7)



R10-3eL
(9"x15")
(ACCESSIBLE
PEDESTRIAN
PUSH BUTTON)
(PB2, PB4, PB6, PB8)



JOHN SHARP DRIVE
SEGMENT 2
SUGAR LAND CITY LIMIT
TO FM 1464
PROJECT NO. 17407



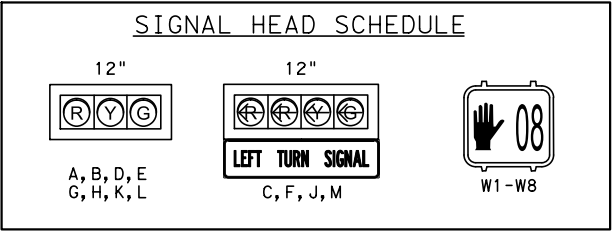
10/26/2022

TRAFFIC SIGNAL LAYOUT
FM 1464
AT
JOHN SHARP DRIVE

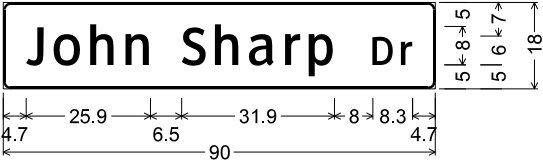
SHEET 2 OF 2

SCALE: HORIZ.: NTS	DRAWN BY: EPIC
VERT.: N/A	APP. BY: EPIC
DATE: 10/26/2022	SHEET NO. 70

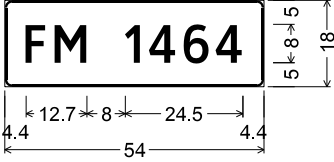
VEHICLE DETECTION CHART	
RVDS	SETTING
RPDD 1	PRESENCE SB THRU AND LEFT
RPDD 2	PRESENCE WB THRU, RIGHT AND LEFT
RPDD 3	PRESENCE NB THRU AND LEFT
RPDD 4	PRESENCE EB THRU AND LEFT
RADD 1	ADVANCE NB THRU
RADD 2	ADVANCE SB THRU



ELECTRICAL SERVICE DATA										
ELEC SERVICE ID	ELECTRICAL SERVICE DESCRIPTION (SEE ED (4), & (5) -14)	SERVICE CONDUIT SIZE	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CKT. BRK. POLE/AMP	TWO-POLE CONTACTOR AMPS	PANELBD. / LOADCENTER AMP RATING	BRANCH CIRCUIT ID.	BRANCH CKT. BRK. POLE/AMPS	BRANCH CIRCUIT AMPS
ES (FM 1464 @ JOHN SHARP DR)	TY D (120/240) 60 (NS) SS (E) SP (O)	1-1/4"	3/#4	N/A	2P/60		100	SIGNAL CONTROLLER	1P/50	30
						30		LUMINAIRES	2P/20	2



1.5" Radius, 0.5" Border, White on Green;
"John Sharp", ClearviewHwy-3-W;
"Dr", ClearviewHwy-3-W;
S1, S3



1.5" Radius, 0.5" Border, White on Green;
"FM", ClearviewHwy-3-W;
"1464", ClearviewHwy-3-W;
S2, S4

Add area 11.25 SF

Add area 6.75 SF

#6

40

6

6.2