

# NOTIFICATION OF ADDENDUM

## ADDENDUM NO. 2

**DATED 6/28/2022**

<b>Control</b>	<b>0005-03-068, ETC.</b>
<b>Project</b>	<b>STP 2021(748)FRS, ETC.</b>
<b>Highway</b>	<b>BI 20-E, ETC.</b>
<b>County</b>	<b>MIDLAND, ETC.</b>

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS  
PROJECT: STP 2021(748)FRS CONTROL: 0005-03-068  
COUNTY: MIDLAND  
LETTING: 06/29/2022  
REFERENCE NO: 0627

**PROPOSAL ADDENDUMS**

- X PROPOSAL COVER )  
X BID INSERTS (SH. NO.: ALL )  
X GENERAL NOTES (SH. NO.: C - D )  
  
\_ SPEC LIST (SH. NO.: )  
\_ SPECIAL PROVISIONS: )  
\_ ADDED:  
  
DELETED:  
  
\_ SPECIAL SPECIFICATIONS:  
\_ ADDED:  
  
DELETED:  
  
X OTHER: PLAN SHEET AND OTHER CHANGES

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

\*\*\*\*\* Proposal Cover \*\*\*\*\*

REVISED CONTRACT TO 285 WORKING DAYS

\*\*\*\*\* Bid Insert \*\*\*\*\*

ALL BID INSERT PROPOSAL SHEETS AND E&Q SHEET 32A ARE REPLACED AS PART OF THIS ADDENDUM

REVISED QUANTITIES FOR THE FOLLOWING BID ITEMS:  
502-6001

\*\*\*\*\* General Notes \*\*\*\*\*

GENERAL NOTES PROPOSAL SHEETS C - D AND PLAN SHEET 28A ARE REPLACED AS PART OF THIS ADDENDUM

SHEET C -D ITEM 8: REVISED NOTE

\*\*\*\*\* Plan Sheets \*\*\*\*\*

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

SHEET 28A (GENERAL NOTES): REFER TO GENERAL NOTES CHANGES AS NOTED ABOVE

SHEET 32A (ESTIMATE & QUANTITY): REFER TO BID INSERT CHANGES AS NOTED ABOVE

Control	0005-03-068, ETC.
Project	STP 2021(748)FRS, ETC.
Highway	BI 20-E, ETC.
County	MIDLAND, ETC.

# PROPOSAL TO THE TEXAS TRANSPORTATION COMMISSION

## 2014 SPECIFICATIONS

### WORK CONSISTING OF RAILROAD CROSSING IMPROVEMENTS MIDLAND COUNTY, TEXAS, Etc.

The quantities in the proposal are approximate. The quantities of work and materials may be increased or decreased as considered necessary to complete the work as planned and contemplated.

This project is to be completed in 285 working days and will be accepted when fully completed and finished to the satisfaction of the Executive Director or designee.

Provide a proposal guaranty in the form of a Cashier's Check, Teller's Check (including an Official Check) or Bank Money Order on a State or National Bank or Savings and Loan Association, or State or Federally chartered Credit Union made payable to the Texas Transportation Commission in the following amount:

ONE HUNDRED THOUSAND (Dollars) ( \$100,000 )

A bid bond may be used as the required proposal guaranty. The bond form may be detached from the proposal for completion. The proposal may not be disassembled to remove the bond form. The bond must be in accordance with Item 2 of the specifications.

Any addenda issued amending this proposal and/or the plans that have been acknowledged by the bidder, become part of this proposal.

By signing the proposal the bidder certifies:

1. the only persons or parties interested in this proposal are those named and the bidder has not directly or indirectly participated in collusion, entered into an agreement or otherwise taken any action in restraint of free competitive bidding in connection with the above captioned project.
2. in the event of the award of a contract, the organization represented will secure bonds for the full amount of the contract.
3. the signatory represents and warrants that they are an authorized signatory for the organization for which the bid is submitted and they have full and complete authority to submit this bid on behalf of their firm.
4. that the certifications and representations contained in the proposal are true and accurate and the bidder intends the proposal to be taken as a genuine government record.

• **Signed:** \*\*

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

**Print Name:**

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

**Title:**

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

**Company:**

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

• Signatures to comply with Item 2 of the specifications.

\*\*Note: Complete (1) for single venture, through (2) for joint venture and through (3) for triple venture.

\* **When the working days field contains an asterisk (\*) refer to the Special Provisions and General Notes.**

## **NOTICE TO CONTRACTORS**

**ANY CONTRACTORS INTENDING TO BID ON ANY WORK TO BE AWARDED BY THIS DEPARTMENT MUST SUBMIT A SATISFACTORY “AUDITED FINANCIAL STATEMENT” AND “EXPERIENCE QUESTIONNAIRE” AT LEAST TEN DAYS PRIOR TO THE LETTING DATE.**

**UNIT PRICES MUST BE SUBMITTED IN ACCORDANCE WITH ITEM 2 OF THE STANDARD SPECIFICATIONS OR SPECIAL PROVISION TO ITEM 2 FOR EACH ITEM LISTED IN THIS PROPOSAL.**

Printed Name of Authorized Signer: \_\_\_\_\_

Signature of Authorized Signer: \_\_\_\_\_ Date: \_\_\_\_\_

PROJECT STP 2021(748)FRS , ETC.  
 COUNTY MIDLAND , ETC.

Proposal Sheet  
 TxDOT  
 FORM 234

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	104	6011		REMOVING CONC (MEDIANS) DOLLARS and CENTS	SY	31.000	1
	104	6017		REMOVING CONC (DRIVEWAYS) DOLLARS and CENTS	SY	1,759.000	2
	104	6022		REMOVING CONC (CURB AND GUTTER) DOLLARS and CENTS	LF	7,949.000	3
	104	6036		REMOVING CONC (SIDEWALK OR RAMP) DOLLARS and CENTS	SY	13.000	4
	110	6001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	748.000	5
	132	6008	002	EMBANKMENT (FINAL)(DENS CONT)(TY D) DOLLARS and CENTS	CY	15,629.000	6
	150	6002		BLADING DOLLARS and CENTS	HR	150.000	7
	160	6003		FURNISHING AND PLACING TOPSOIL (4") DOLLARS and CENTS	SY	8,176.000	8
	164	6009		BROADCAST SEED (TEMP) (WARM) DOLLARS and CENTS	SY	4,091.000	9
	164	6011		BROADCAST SEED (TEMP) (COOL) DOLLARS and CENTS	SY	4,091.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	164	6037		DRILL SEEDING (PERM) (URBAN) (SANDY) DOLLARS and CENTS	SY	8,176.000	11
	216	6001		PROOF ROLLING DOLLARS and CENTS	HR	150.000	12
	247	6237	003	FL BS (CMP IN PLC)(TY A OR B GR 4)(6") DOLLARS and CENTS	SY	844.000	13
	251	6360		REWORK BS MTL (TY C) (10"-14")(OC) DOLLARS and CENTS	SY	33,124.000	14
	310	6005		PRIME COAT (AE-P) DOLLARS and CENTS	GAL	8,811.000	15
	360	6002		CONC PVMT (CONT REINF - CRCP) (8") DOLLARS and CENTS	SY	27,048.000	16
	360	6011		CONC PVMT (CONT REINF - CRCP) (8.5") DOLLARS and CENTS	SY	11,872.000	17
	400	6005		CEM STABIL BKFL DOLLARS and CENTS	CY	1,320.000	18
	400	6006		CUT & RESTORING PAV DOLLARS and CENTS	SY	461.000	19
	400	6009		CEMENT STAB BACKFILL (INLET OR MH) DOLLARS and CENTS	CY	227.000	20
	402	6001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	2,736.000	21
	403	6001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	547.000	22

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	416	6030		DRILL SHAFT (TRF SIG POLE) (24 IN) DOLLARS and CENTS	LF	48.000	23
	416	6031		DRILL SHAFT (TRF SIG POLE) (30 IN) DOLLARS and CENTS	LF	24.000	24
	416	6032		DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	112.000	25
	416	6034		DRILL SHAFT (TRF SIG POLE) (48 IN) DOLLARS and CENTS	LF	144.000	26
	432	6002		RIPRAP (CONC)(5 IN) DOLLARS and CENTS	CY	13.000	27
	432	6010		RIPRAP (CONC)(CL B)(5 IN) DOLLARS and CENTS	CY	4.000	28
	450	6049	001	RAIL (HANDRAIL)(TY C) DOLLARS and CENTS	LF	1,184.000	29
	462	6001	002	CONC BOX CULV (3 FT X 2 FT) DOLLARS and CENTS	LF	111.000	30
	462	6003	002	CONC BOX CULV (4 FT X 2 FT) DOLLARS and CENTS	LF	296.000	31
	462	6047	002	CONC BOX CULV (4 FT X 2 FT)(EXTEND) DOLLARS and CENTS	LF	14.000	32
	464	6003	001	RC PIPE (CL III)(18 IN) DOLLARS and CENTS	LF	217.000	33
	464	6005	001	RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	2,068.000	34



ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	465	6009	001	JCTBOX(COMPL)(PJB)(5FTX5FT) DOLLARS and CENTS	EA	1.000	35
	465	6034	001	INLET (COMPL)(PCU)(4FT)(LEFT) DOLLARS and CENTS	EA	1.000	36
	465	6037	001	INLET (COMPL)(PCU)(5FT)(NONE) DOLLARS and CENTS	EA	4.000	37
	465	6040	001	INLET (COMPL)(PCU)(5FT)(BOTH) DOLLARS and CENTS	EA	17.000	38
	465	6071	001	INLET (COMPL)(PSL)(RC)(4FTX4FT) DOLLARS and CENTS	EA	4.000	39
	465	6074	001	INLET (COMPL)(PSL)(RC)(5FTX5FT) DOLLARS and CENTS	EA	1.000	40
	465	6147	001	INLET(COMPL)(PSL)(SFG)(4FTX4FT-4FTX-4FT) DOLLARS and CENTS	EA	3.000	41
	465	6162	001	INLET(COMPL)(PAZD)(FG)(5FTX5FT-4FTX-4FT) DOLLARS and CENTS	EA	1.000	42
	466	6182		WINGWALL (PW - 1) (HW=7 FT) DOLLARS and CENTS	EA	1.000	43
	467	6388		SET (TY II) (24 IN) (RCP) (3: 1) (C) DOLLARS and CENTS	EA	1.000	44
	479	6001		ADJUSTING MANHOLES DOLLARS and CENTS	EA	3.000	45
	479	6006		ADJUSTING INLET (CAP) DOLLARS and CENTS	EA	1.000	46

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	496	6002		REMOV STR (INLET)  DOLLARS and CENTS	EA	4.000	47
	496	6004		REMOV STR (SET)  DOLLARS and CENTS	EA	2.000	48
	496	6007		REMOV STR (PIPE)  DOLLARS and CENTS	LF	270.000	49
	500	6001		MOBILIZATION  DOLLARS and CENTS	LS	1.000	50
	502	6001	008	BARRICADES, SIGNS AND TRAFFIC HAN- DLING  DOLLARS and CENTS	MO	15.000	51
	506	6040	005	BIODEG EROSN CONT LOGS (INSTL) (8")  DOLLARS and CENTS	LF	520.000	52
	506	6042	005	BIODEG EROSN CONT LOGS (INSTL) (18")  DOLLARS and CENTS	LF	540.000	53
	506	6043	005	BIODEG EROSN CONT LOGS (REMOVE)  DOLLARS and CENTS	LF	1,060.000	54
	508	6001		CONSTRUCTING DETOURS  DOLLARS and CENTS	SY	1,387.000	55
	512	6009		PORT CTB (FUR & INST)(LOW PROF)(TY 1)  DOLLARS and CENTS	LF	5,960.000	56
	512	6010		PORT CTB (FUR & INST)(LOW PROF)(TY 2)  DOLLARS and CENTS	LF	320.000	57
	512	6033		PORT CTB (MOVE)(LOW PROF)(TY 1)  DOLLARS and CENTS	LF	940.000	58

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	512	6034		PORT CTB (MOVE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	80.000	59
	512	6057		PORT CTB (REMOVE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	5,960.000	60
	512	6058		PORT CTB (REMOVE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	320.000	61
	529	6002		CONC CURB (TY II) DOLLARS and CENTS	LF	7,382.000	62
	529	6019		CONC CURB (TY F) DOLLARS and CENTS	LF	1,791.000	63
	530	6004		DRIVEWAYS (CONC) DOLLARS and CENTS	SY	2,174.000	64
	531	6002		CONC SIDEWALKS (5") DOLLARS and CENTS	SY	2,604.000	65
	531	6018		CURB RAMPS (TY 1) DOLLARS and CENTS	SY	25.000	66
	531	6019		CURB RAMPS (TY 2) DOLLARS and CENTS	SY	98.000	67
	531	6022		CURB RAMPS (TY 5) DOLLARS and CENTS	SY	48.000	68
	531	6024		CURB RAMPS (TY 7) DOLLARS and CENTS	SY	63.000	69
	531	6027		CURB RAMPS (TY 10) DOLLARS and CENTS	SY	60.000	70

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	536	6002		CONC MEDIAN  DOLLARS and CENTS	SY	360.000	71
	618	6023		CONDT (PVC) (SCH 40) (2")  DOLLARS and CENTS	LF	612.000	72
	618	6024		CONDT (PVC) (SCH 40) (2") (BORE)  DOLLARS and CENTS	LF	358.000	73
	618	6029		CONDT (PVC) (SCH 40) (3")  DOLLARS and CENTS	LF	79.000	74
	618	6033		CONDT (PVC) (SCH 40) (4")  DOLLARS and CENTS	LF	116.000	75
	618	6034		CONDT (PVC) (SCH 40) (4") (BORE)  DOLLARS and CENTS	LF	1,584.000	76
	618	6046		CONDT (PVC) (SCH 80) (2")  DOLLARS and CENTS	LF	10.000	77
	620	6004		ELEC CONDR (NO.12) INSULATED  DOLLARS and CENTS	LF	320.000	78
	620	6007		ELEC CONDR (NO.8) BARE  DOLLARS and CENTS	LF	2,018.000	79
	620	6008		ELEC CONDR (NO.8) INSULATED  DOLLARS and CENTS	LF	880.000	80
	620	6009		ELEC CONDR (NO.6) BARE  DOLLARS and CENTS	LF	785.000	81
	620	6010		ELEC CONDR (NO.6) INSULATED  DOLLARS and CENTS	LF	304.000	82

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	621	6005		TRAY CABLE (4 CONDR) (12 AWG) DOLLARS and CENTS	LF	1,383.000	83
	624	6002		GROUND BOX TY A (122311)W/APRON DOLLARS and CENTS	EA	17.000	84
	624	6008		GROUND BOX TY C (162911)W/APRON DOLLARS and CENTS	EA	4.000	85
	624	6010		GROUND BOX TY D (162922)W/APRON DOLLARS and CENTS	EA	3.000	86
	624	6028		REMOVE GROUND BOX DOLLARS and CENTS	EA	5.000	87
	628	6002		REMOVE ELECTRICAL SERVICES DOLLARS and CENTS	EA	3.000	88
	628	6145		ELC SRV TY D 120/240 060(NS)SS(E)SP(O) DOLLARS and CENTS	EA	3.000	89
	628	6189		ELC SRV TY D 120/240 070(NS)SS(E)SP(U) DOLLARS and CENTS	EA	1.000	90
	636	6001	001	ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	44.000	91
	644	6001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	49.000	92
	644	6004		IN SM RD SN SUP&AM TY10BWG(1)SA(T) DOLLARS and CENTS	EA	14.000	93
	644	6007		IN SM RD SN SUP&AM TY10BWG(1)SA(U) DOLLARS and CENTS	EA	1.000	94

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	6030		IN SM RD SN SUP&AM TYS80(1)SA(T) DOLLARS and CENTS	EA	2.000	95
	644	6033		IN SM RD SN SUP&AM TYS80(1)SA(U) DOLLARS and CENTS	EA	2.000	96
	644	6067		IN SM RD SN SUP&AM (INST SIGN ONLY) DOLLARS and CENTS	EA	13.000	97
	644	6076		REMOVE SM RD SN SUP&AM DOLLARS and CENTS	EA	61.000	98
	658	6099		INSTL OM ASSM (OM-2Z)(WFLX)GND DOLLARS and CENTS	EA	2.000	99
	662	6056		WK ZN PAV MRK REMOV (TRAF BTN) TY W DOLLARS and CENTS	EA	4,268.000	100
	662	6058		WK ZN PAV MRK REMOV (TRAF BTN) TY Y DOLLARS and CENTS	EA	7,104.000	101
	662	6075		WK ZN PAV MRK REMOV (W)24"(SLD) DOLLARS and CENTS	LF	444.000	102
	662	6080		WK ZN PAV MRK REMOV (W)(ARROW) DOLLARS and CENTS	EA	14.000	103
	662	6086		WK ZN PAV MRK REMOV (W)(RR XING) DOLLARS and CENTS	EA	8.000	104
	662	6090		WK ZN PAV MRK REMOV (W)(WORD) DOLLARS and CENTS	EA	14.000	105
	662	6102		WK ZN PAV MRK REMOV (Y)24"(SLD) DOLLARS and CENTS	LF	195.000	106

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6036	007	REFL PAV MRK TY I (W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	2,170.000	107
	666	6048	007	REFL PAV MRK TY I (W)24"(SLD)(100MIL) DOLLARS and CENTS	LF	2,200.000	108
	666	6054	007	REFL PAV MRK TY I (W)(ARROW)(100MIL) DOLLARS and CENTS	EA	47.000	109
	666	6078	007	REFL PAV MRK TY I (W)(WORD)(100MIL) DOLLARS and CENTS	EA	13.000	110
	666	6093	007	REFL PAV MRK TY I (W)(RR XING)(100MIL) DOLLARS and CENTS	EA	18.000	111
	666	6176	007	REFL PAV MRK TY II (W) 8" (DOT) DOLLARS and CENTS	LF	40.000	112
	666	6300	007	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	6,230.000	113
	666	6303	007	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	2,628.000	114
	666	6312	007	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL) DOLLARS and CENTS	LF	1,340.000	115
	666	6315	007	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	27,650.000	116
	672	6007		REFL PAV MRKR TY I-C DOLLARS and CENTS	EA	1,427.000	117
	672	6009		REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	3,582.000	118

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	672	6010		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	386.000	119
	677	6001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	14,359.000	120
	677	6003		ELIM EXT PAV MRK & MRKS (8") DOLLARS and CENTS	LF	583.000	121
	677	6007		ELIM EXT PAV MRK & MRKS (24") DOLLARS and CENTS	LF	210.000	122
	677	6008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	9.000	123
	677	6012		ELIM EXT PAV MRK & MRKS (WORD) DOLLARS and CENTS	EA	7.000	124
	677	6016		ELIM EXT PAV MRK & MRKS (RR XING) DOLLARS and CENTS	EA	1.000	125
	680	6002	006	INSTALL HWY TRF SIG (ISOLATED) DOLLARS and CENTS	EA	4.000	126
	680	6004	006	REMOVING TRAFFIC SIGNALS DOLLARS and CENTS	EA	4.000	127
	682	6001		VEH SIG SEC (12")LED(GRN) DOLLARS and CENTS	EA	42.000	128
	682	6002		VEH SIG SEC (12")LED(GRN ARW) DOLLARS and CENTS	EA	15.000	129
	682	6003		VEH SIG SEC (12")LED(YEL) DOLLARS and CENTS	EA	42.000	130



ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	682	6004		VEH SIG SEC (12")LED(YEL ARW) DOLLARS and CENTS	EA	27.000	131
	682	6005		VEH SIG SEC (12")LED(RED) DOLLARS and CENTS	EA	42.000	132
	682	6006		VEH SIG SEC (12")LED(RED ARW) DOLLARS and CENTS	EA	18.000	133
	682	6018		PED SIG SEC (LED)(COUNTDOWN) DOLLARS and CENTS	EA	16.000	134
	682	6047		LOUVER (12") (ADJUSTABLE) DOLLARS and CENTS	EA	7.000	135
	682	6049		BACKPLATE W/REFL BRDR(4 SEC) DOLLARS and CENTS	EA	5.000	136
	682	6050		BACKPLATE W/REFL BRDR(5 SEC) DOLLARS and CENTS	EA	10.000	137
	682	6060		BACKPLATE W/REFL BRDR(3 SEC) DOLLARS and CENTS	EA	40.000	138
	684	6007		TRF SIG CBL (TY A)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	1,906.000	139
	684	6009		TRF SIG CBL (TY A)(12 AWG)(4 CONDR) DOLLARS and CENTS	LF	632.000	140
	684	6010		TRF SIG CBL (TY A)(12 AWG)(5 CONDR) DOLLARS and CENTS	LF	1,906.000	141
	684	6012		TRF SIG CBL (TY A)(12 AWG)(7 CONDR) DOLLARS and CENTS	LF	5,439.000	142

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	684	6015		TRF SIG CBL (TY A)(12 AWG)(10 CONDR) DOLLARS and CENTS	LF	1,022.000	143
	684	6031		TRF SIG CBL (TY A)(14 AWG)(5 CONDR) DOLLARS and CENTS	LF	220.000	144
	684	6033		TRF SIG CBL (TY A)(14 AWG)(7 CONDR) DOLLARS and CENTS	LF	305.000	145
	684	6036		TRF SIG CBL (TY A)(14 AWG)(10 CONDR) DOLLARS and CENTS	LF	170.000	146
	684	6046		TRF SIG CBL (TY A)(14 AWG)(20 CONDR) DOLLARS and CENTS	LF	640.000	147
	684	6079		TRF SIG CBL (TY C)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	695.000	148
	686	6027		INS TRF SIG PL AM(S)1 ARM(24')LUM DOLLARS and CENTS	EA	1.000	149
	686	6031		INS TRF SIG PL AM(S)1 ARM(28')LUM DOLLARS and CENTS	EA	1.000	150
	686	6043		INS TRF SIG PL AM(S)1 ARM(40')LUM DOLLARS and CENTS	EA	1.000	151
	686	6047		INS TRF SIG PL AM(S)1 ARM(44')LUM DOLLARS and CENTS	EA	6.000	152
	686	6051		INS TRF SIG PL AM(S)1 ARM(48')LUM DOLLARS and CENTS	EA	1.000	153
	686	6059		INS TRF SIG PL AM(S)1 ARM(55')LUM DOLLARS and CENTS	EA	2.000	154

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	686	6063		INS TRF SIG PL AM(S)1 ARM(60')LUM DOLLARS and CENTS	EA	1.000	155
	686	6065		INS TRF SIG PL AM(S)1 ARM(65') DOLLARS and CENTS	EA	2.000	156
	686	6067		INS TRF SIG PL AM(S)1 ARM(65')LUM DOLLARS and CENTS	EA	1.000	157
	687	6001		PED POLE ASSEMBLY DOLLARS and CENTS	EA	7.000	158
	688	6001		PED DETECT PUSH BUTTON (APS) DOLLARS and CENTS	EA	16.000	159
	688	6003		PED DETECTOR CONTROLLER UNIT DOLLARS and CENTS	EA	4.000	160
	752	6015		TREE AND BRUSH REMOVAL DOLLARS and CENTS	AC	1.120	161
	3077	6007		SP MIXES SP-B SAC-B PG70-22 DOLLARS and CENTS	TON	8,823.000	162
	6001	6001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	1,173.000	163
	6056	6001		PREFORMED IN-LANE(TRANS) RUMBLE STRIP DOLLARS and CENTS	LF	3,024.000	164
	6058	6001		BBU SYSTEM (EXTERNAL BATT CABINET) DOLLARS and CENTS	EA	4.000	165
	6185	6002	002	TMA (STATIONARY) DOLLARS and CENTS	DAY	1,070.000	166

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6185	6003	002	TMA (MOBILE OPERATION)  DOLLARS and CENTS	HR	72.000	167
	6292	6001		RVDS(PRESENCE DETECTION ONLY)  DOLLARS and CENTS	EA	12.000	168
	6292	6002		RVDS(ADVANCE DETECTION ONLY)  DOLLARS and CENTS	EA	4.000	169
	6306	6001		VIVDS PROSR SYS  DOLLARS and CENTS	EA	1.000	170
	6306	6002		VIVDS CAM ASSY FXD LNS  DOLLARS and CENTS	EA	4.000	171
	6306	6005		VIVDS CNTRL SOFTWARE  DOLLARS and CENTS	EA	1.000	172
	6306	6007		VIVDS CABLING  DOLLARS and CENTS	LF	830.000	173

**Material Specification Information**

Grading Requirements

Item	Description	Grading Requirements				Soil		Wet
		<u>Percent Retained - Sieves</u>				Constants		Ball
					#40	L.L.	P.I.	Mill
						<u>Max.</u>	<u>Max.</u>	<u>Max.</u>
247	Type A GR 4	1-3/4"	7/8"	3/8"	#40	40	12	40

The maximum increase in material passing the number 40 sieve resulting from the wet ball mill test shall not exceed 20%.

Cure the finished section of flex base until the moisture content is at least 3 percentage points below the optimum as or as directed by the engineer before applying the next successive course or prime coat.

There is potential for gypsum in the area and additional time may be necessary to process the subgrade and/or base material.

Contractor questions on this project will be accepted through email at the following address:

- [ODA-PreLettingQuestions@txdot.gov](mailto:ODA-PreLettingQuestions@txdot.gov)

All contractor questions will be reviewed by the Engineer. All questions and/or responses will be posted to TxDOT's Public FTP at the following Address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/>

The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

**Item 5: Control of the Work**

The existing alignment is the control for the Contractor staking. Establish reference points for the control prior to removing the existing surface.

In the event the finished surface does not conform to the typical sections or does not meet the required IRI, rework the non-conforming area to the limits necessary and employ additional survey control as directed.

**Item 6: Control of Materials**

Restrict storage of equipment and materials to approved areas. The Engineer will not approve storage in any TxDOT yard.

Promptly and properly dispose of any waste generated from servicing equipment on the project.

### **Item 7: Legal Relations and Responsibilities**

If access to the project is required through a new or unapproved driveway (i.e. Material source, stockpile location, field office, etc.), obtain an approved "Permit to Construct Access Driveway Facilities on Highway Right Of Way" (TxDOT Form 1058) before beginning any construction operations.

Utilities (public, private and TxDOT) exist throughout the project. Prior to any excavation, investigate to determine the utility locations within the project right of way. Contact the TxDOT Odessa Traffic Operations shop at 432-498-4690 to investigate and determine the location of any TxDOT utility that may exist within the project right of way. Exercise caution when excavating in areas where investigations have determined that utilities exist. The contractor is responsible for maintaining utility markings.

No significant traffic generator events identified.

As an element of ensuring public safety and convenience under Article 7.2.4, the Contractor is hereby directed to open all closed lanes and shoulder and remove all traffic control devices from any areas where work is not being actively performed unless overnight traffic control is required and approved by the engineer. Removed devices must be stored outside of the clear zones near the right of way line or removed from the right of way line entirely.

### **Item 8: Prosecution and Progress**

The following portions of the plans may affect the Contractor's planned construction sequencing. The Contractor's attention is directed to the appropriate plan sheet or standard sheet.

- Traffic Control Plan
- Storm Water Pollution Prevention Plan
- Environmental Permit, Issues And Commitments (EPIC)
- Railroad Exhibits and/or Notes

Maintain ingress and egress to side streets and private property at all times.

Initiate the installation of Item 628 "Electrical Services" as part of the initial work sequence to allow TxDOT the lead-time necessary for coordination with utility companies to establish and provide for electrical service(s) proposed for this project.

Working days will be computed and charged in accordance with Article 8.3.1.4. "Standard Workweek."

In addition to liquidated damages outlined in SP 000-658, the Contractor is subject to the following daily road-user costs for each Milestone:

**BI 20 at N. Fairgrounds Rd. (CSJ 0005-03-068)**

Time charges for Phase 2 will begin once the new railroad planks (Phase 1) have been installed and traffic at the crossing has been opened back up to normal operation. Time charges for Phase 3 will begin once construction of the east half of Fairgrounds Rd and the BI 20 frontage road has been completed. Phase 3 will be considered complete when the new railroad signal has been installed and traffic at the crossing has been opened back up to normal operation.

Milestone No.	Starts	Ends	Allowable Duration	Daily Road-User Cost Incentive / Disincentive
1	Beginning of Phase 2	Completion of Phase 2	122 Working Days	\$3,000 per Working Day
2	Beginning of Phase 3	Completion of Phase 3	77 Working Days	\$1,200 per Working Day

**BI 20 at S. Garfield St. (CSJ 0005-09-020)**

Time charges for Phase 2 Step 1 will begin once the new railroad planks (Phase 1) have been installed and traffic at the crossing has been opened back up to normal operation. Time charges for Phase 3 Step 1 will begin once construction of the north east quadrant of the BI 20 – Garfield intersection has been completed. Time charges for Phase 3 Step 2 will begin when the new railroad signal has been installed (Phase 3 Step 1) and traffic at the crossing has been opened back up to normal operation.

Milestone No.	Starts	Ends	Allowable Duration	Daily Road-User Cost Incentive / Disincentive
1	Beginning of Phase 2 Step 1	Completion of Phase 2 Step 2	53 Working Days	\$3,000 per Working Day
2	Beginning of Phase 3 Step 1	Completion of Phase 3 Step 1	120 Working Days	\$3,000 per Working Day
3	Beginning of Phase 3 Step 2	Completion of Phase 3 Step 2	37 Working Days	\$3,000 per Working Day

**BI 20 at SH 137 (CSJ 0005-16-016)**

Time charges for Phase 2 will begin once the new railroad planks (Phase 1) have been installed and traffic at the crossing has been opened back up to normal operation. Time charges for Phase 3 will begin once construction of the north half of the BI 20 – SH 137 intersection has been completed. Phase 3 will be considered complete when the new railroad signal has been installed and traffic at the crossing has been opened back up to normal operation.

Milestone No.	Starts	Ends	Allowable Duration	Daily Road-User Cost Incentive / Disincentive
1	Beginning of Phase 2	Completion of Phase 2	91 Working Days	\$3,000 per Working Day
2	Beginning of Phase 3	Completion of Phase 3	76 Working Days	\$1,200 per Working Day

90 day lead time is needed to allow for sufficient time to obtain and produce materials needed for various bid items in this project.

**Item 110: Excavation**

Broom the existing base or subgrade to remove any loose material dropped during excavation operations. This work is considered subsidiary to this item.

**Item 132: Embankment**

For all material with a plasticity index of less than 20, use test method Tex-113-E in lieu of test method Tex-114-E for determining the percent of density.

**Item 150: Blading**

Preserve the top 4" of topsoil outside of the work area. Preserve this material in windrows until topsoil can be replaced and seeded to stabilize all exposed terrain.

**Item 216: Proof Rolling**

Proof rolling will be required on rock embankments where density tests are not practical and at other locations as directed.

**Item 310: Prime Coat**

AE-P will have a minimum 72 hour curing time or as directed by the engineer.

**Item 400: Excavation and Backfill for Structures**

Aggregate for cement stabilized backfill will be an approved material.

The addition of cement stabilized backfill under the pipe will not be required for this project. However, the Contractor will be required to shape the subgrade (trench bottom) to conform to a Class C bedding in sand or loam. If rock or rock outcrops are encountered, a Class B bedding consisting of sand or chat material will be required under the pipe.

**Item 402: Trench Excavation Protection**

Any roadway excavation needed at proposed structures will be done before placing structures in order to minimize trench excavation protection.



**Item 416: Drilled Shaft Foundations**

For drilled shaft foundations for roadway illumination assemblies, provide Class C concrete with 6-1/2" slump for dry type placements in accordance with Table 2, Slump Requirements.

**Item 421: Hydraulic Cement Concrete**

Furnish disposable 4" or 6" cylinder molds and caps that meet testing tolerances.

The Engineer will provide strength testing equipment for acceptance testing.

Within seven (7) days after concrete has been placed for foundations for traffic signals, roadway illumination assemblies, or high mast illumination assemblies, provide a rub finish for exposed surfaces in accordance with Item 427, Surface Finishes for Concrete, Article 4.3.3.

Furnish Type II or IP cement.

All plants and trucks may be inspected and approved by the Engineer in lieu of the NRMCA or Non-Department Engineer Sealed Certifications. The criteria and frequency of the Engineer approval of plants and trucks is the same used for NRMCA Certification.

**Item 427: Surface Finishes for Concrete**

For Surface Area I, provide a rub finish with the exception of abutments.

**Item 432: Riprap**

Use approved expansion joint material and place between the proposed riprap and curb and gutter.

Reinforce all riprap on this project with no. 3 bars spaced 12 inches O.C.B.W. or no. 4 bars spaced at 18 inches O.C.B.W.

Broom finish all riprap on this project unless otherwise directed.

Polypropylene fiber may not be used in lieu of reinforcing steel.

In addition to reinforcing steel, polypropylene fiber is required at a rate of 1.5 lbs. /cy.

**Item 450: Railing**

Concrete and steel for 12-inch wide pedestrian rail foundation as shown in PRD-13 shall be considered subsidiary to the pedestrian handrail.

**Item 464: Reinforced Concrete Pipe**

At locations where existing culverts are cut, use Class C concrete to patch the areas at the joint between the new construction and the existing structure.

**Item 467: Safety End Treatment**

Provide shop drawings for pipe runners.

**Item 479: Adjusting Manholes and Inlets**

Raise the manholes and water valves up to finished roadway elevation, matching the finish cross-slope.

**Item 496: Removing Structures**

Submit a demolition plan for approval by the Engineer in accordance with Item 496.

**Item 502: Barricades, Signs, and Traffic Handling**

Stop work immediately if any major traffic control element such as an advanced warning flashing panel or TMA or PCMS is not in good working order or control setup.

Maintain "No Center Line", "Do Not Pass" and "Pass With Care" signs until the permanent lane markings have been placed in accordance with plans.

Place orange fencing around sidewalk, wheelchair ramps and other pedestrian areas that pose a hazard to pedestrian traffic as directed.

Use Shoulder Drop-Off (CW8-9A) signs during construction when shoulder drop-off conditions are 3 inches or greater or as directed. Placement shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices".

This project has a regulatory work zone speed reduction within the project limits. The work zone speed limit is reduced from 55 mph to 45 mph. Placement of speed reduction zone signs shall comply with BC (3)-21. Speed resumption sign(s) is required at the end of a speed reduction zone.

Vertical panels shall be self-righting.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

When construction operations result in a drop-off of more than 2 inches, a 3:1 or flatter slope will be required. The slope must be constructed with a compacted material capable of supporting vehicles as approved by the Engineer. This work shall be done expeditiously during daylight hours. Flaggers and appropriate signing to safely guide traffic through the work area will be required as directed by the Engineer. This shall be considered subsidiary to Item 502.

### **Item 506: Temporary Erosion, Sedimentation, and Environmental Controls**

In accordance with the Construction General Permit (CGP), erosion control and stabilization measures should be initiated as soon as practicable to include (list what our stabilization measures are – for example, replacing topsoil from windrow, erosion control blankets, seeding, etc.)

It is not anticipated that erosion control devices will be needed on this project. In the event that devices are needed, the Storm Water Pollution Prevention Plan shall consist of using the following items and/or items as directed by the Engineer. Payment for the work may be determined in accordance with Item 4, Article 4. "Changes in the Work".

- Temporary Sediment Control Fence
- Rock Filter Dams
- Biodegradable Erosion Control Logs
- Construction Exits
- Earthwork For Erosion Control

The total disturbed area for this project is 1.44 Acres. The disturbed area in this project, all project locations in the contract, and Contractor Project Specific Locations (PSLS), within 1 mile of the project limits, for the contract will further establish the authorization requirements for storm water discharges. The department will obtain an authorization to discharge storm water from the Texas Commission On Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain any required authorization from the TCEQ for any Contractor PSLS for construction support activities on or off the right of way. When the total area disturbed for all projects in the contract and PSLS within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLS on the right of way, to the Engineer (or to the appropriate MS4 operator when on an off-state system route).

Upon acceptance of the project, all SW3P devices will become property of the State and maintenance responsibility is transferred to the State until final stabilization is attained.

When applying cement for emulsion, asphalt treatment, or any other soil stabilization, sprinkle water as needed to control cement from blowing and contaminating adjacent vegetation and waters.

### **Item 529: Concrete Curb, Gutter, and Combined Curb And Gutter**

Use and place approved expansion joint material between the existing curb and the proposed curb and at least every 50 feet in the proposed curb sections.

Polypropylene fibers may not be used in lieu of reinforcing steel.

After construction, restore the adjacent surface to a condition approved by the Engineer. Consider this work subsidiary to this bid item.

### **Item 530: Intersections, Driveways, and Turnouts**

Reinforce concrete driveways with no. 3 bars spaced at 12" O.C.B.W. or with #4 bars spaced at 18" O.C.B.W.

### **Item 531: Sidewalks**

Polypropylene fiber may not be used in lieu of reinforcing steel.

### **Item 585: Ride Quality for Pavement Surfaces**

Use surface test Type A to evaluate ride quality of travel lanes in accordance with Item 585, "Ride Quality for Pavement Surfaces."

### **Item 610: Roadway Illumination Assemblies**

Changes in the locations of poles, conduit, pull boxes, or other items as shown on the plans may be made in those instances deemed necessary, or when requested by the Contractor and approved.

### **Limitations On Use Of The RIP-11 Standard**

The Roadway Illumination Pole (RIP-11) Standard details were developed for installations in locations where the 3-second gust basic maximum wind speed is 110 mph, and where the elevation of the base of the pole is less than (i.e. Not more than) 25' above the elevation of surrounding terrain, in accordance with the "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," 4<sup>TH</sup> edition (2001) (AASHTO design specifications). For poles to be installed in regions where the maximum basic wind speed exceeds 110 mph or to be mounted more than 25' above the surrounding terrain, the Contractor shall provide poles meeting the following requirements:

**Submittals.** Following the electronic shop drawing submittal process (see [ftp://ftp.dot.state.tx.us/pub/TxDOTinfo/library/pubs/bus/bridge/e\\_submit\\_guide.pdf](ftp://ftp.dot.state.tx.us/pub/TxDOTinfo/library/pubs/bus/bridge/e_submit_guide.pdf)), the Contractor shall submit to the Engineer, for approval, fabrication drawings and calculations for the poles. The drawings and calculations shall be sealed by a Texas registered or licensed professional Engineer (P.E.).

**Luminaire structural support requirements.** Lighting poles, arms, and anchor bolt assemblies shall have a 25 year design life to safely resist dead loads, ice loads and the required basic wind speeds at the location of installation in accordance with the current edition of the AASHTO design specifications. For transformer base poles, the fabricator shall include transformer base and connecting hardware in calculations and shop drawing submittals. All transformer bases shall have been structurally tested to resist the theoretical plastic moment capacity of the pole. Certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished shall be submitted with the shop drawings. Shop drawings shall show breakaway base model number, and manufacturer's name and logo. Manufacturer's shop drawings shall include the ASTM designations for all materials to be used.

### **Item 618: Conduit**

Place a single continuous piece of warning tape in accordance with this item along the entire length of each underground conduit installation. Locate warning tape approximately twelve inches above conduit as indication that a buried electrical line exists below the tape. Cement stabilized backfilled conduit is exempt from this requirement. Comply with warning tape requirements for any installation of buried conduit, including portions of conduit located outside of cement stabilized backfill.

When trenched conduit is proposed beneath roadways under construction, install conduit after grading operations have been completed and before any surfacing begins at that location.

When shown on the plans as bored conduit, install conduit by an approved directional boring method.

Maintain a minimum 24" depth from finish grade to top of conduit for conduit proposed beneath pavement.

Use an approved ditching method. Place and backfill conduit proposed beneath existing pavement in accordance with the section shown in the plans. Schedule and complete work so that all lanes open to traffic at night.

### **Item 620: Electrical Conductors**

Note the requirements of Item 7, Article 18. Electrical Requirements, of the standard specifications.

Do not exceed four hundred and fifty feet (450') between ground boxes where conduit and conductor is used.

### **Item 628: Electrical Services**

Initiate and complete the construction of all electrical services at the earliest possible time to facilitate lead-time required to coordinate with utility companies and establish power for the proposed electrical service(s).

Before construction or installation of any electrical service(s) on this project, contact TxDOT Odessa Traffic Operations shop at 432-498-4690 to facilitate coordination with the appropriate energy company or companies.

Physically identify the location for each proposed electrical service on the project, and request the physical address for each proposed electrical service identified; the Engineer will provide the physical address for each respective location. Permanently mark the physical address of any proposed electrical service on the respective meter base lid. Use one of two methods for permanent marking. For the preferred method of marking, use an approved die-stamp, with a minimum 1/2" height of alpha-numeric characters and stamp physical address on meter base lid. After stamping, apply coating of zinc-rich paint to the stamped area. Do not damage meter base. Replace meter base if determined by the Engineer as damaged or unacceptable. No additional compensation will be made for replacement of meter bases in the event an unacceptable determination is made. When approved, use an alternate method of marking by providing a brass or aluminum plate tag with the

physical address embossed by a machine-stamp process. Affix this tag to the meter base by a method approved by the Engineer. Provide a sample of a stamped plate tag for approval of this alternate method. The permanent physical address is required to be marked on the meter base prior to initiation of electrical service. Materials, labor, tools, equipment and incidentals necessary to complete this work will be considered as subsidiary to Item 628, "Electrical Services".

Use materials from the Prequalified Material Producer Lists as shown on the Texas Department of Transportation (TxDOT) – Construction Division's (CST) Material Producer List. See TxDOT website ([www.TxDOT.gov](http://www.TxDOT.gov)) - business > resources > material producer list - for list of prequalified manufacturers. Category is "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials found on this list."

For incidental material and parts necessary for construction of electrical services, including the service entrance weather-head, rigid metal conduit (RMC) and PVC conduit, conduit fittings, service conductors, circuit breakers, ground rods and clamps, grounding bushing(s), and mounting hardware including straps and channel brackets for conduit support, furnish products and/or materials that comply with the plans and specifications. Prior to construction of any electrical service, submit to the Engineer respective catalog cut sheets for incidental materials and parts. Electrical services constructed of materials or parts which do not comply with the plans and specifications will be cause for rejection of a portion or all of the work.

Install photocell(s) facing north when practical.

#### **Item 644: Small Roadside Sign Assemblies**

All new sign supports for stop and yield signs will have a 12" red strip of Type C High Specific Intensity Reflective tape. Place the top of the tape 4' above the edge of the roadway. This work will not be paid for directly and will be subsidiary to the pertinent bid item.

For standard small sign details and dimensions, refer to the "Standard Highway Sign Designs for Texas (SHSD)"; a supplement to the Texas Manual on Uniform Traffic Control Devices (TMUTCD)".

#### **Item 658: Delineator and Object Marker Assemblies**

Delineator and object marker assembly posts shall be composed of post-consumer recycled materials. Embedded stub shall be perforated square tubing.

#### **Item 662: Work Zone Pavement Markings**

After permanent pavement markings are placed, pull tabs from hot mix surface and/or cut off tabs flush with the pavement on seal coat surface. Remove tabs from the project and dispose of properly.

Materials used for non-removable work zone pavement markings will be paint and beads or other approved materials.

#### **Item 666 Retroreflectorized Pavement Markings**

Type I markings shall meet the minimum retroreflectivity values defined by Article 4.4 Retroreflectivity Requirements.

Place Type I pavement markings with a ribbon-gun application.

Measure thickness for markings in accordance with Tex-854-B using usage rates (Part II).

### **Item 668: Prefabricated Pavement Markings**

Do not tab or use existing RR pavement markings for placement of proposed RR pavement marking; place proposed RR pavement markings in accordance with standard RCD(1)-16 and RCD(2)-16.

### **Item 680: Highway Traffic Signals**

Wire signal installations to operate in accordance with the phase diagrams shown in the plans. Set time intervals as directed.

Use aluminum signal heads and components for this project.

Provide an approved technician who is available at all times by an on-call basis for maintenance of any installed signal equipment during the period of time in which installed signals are operating, including the test period for this project.

Provide a minimum length of 24" for each signal cable in each signal pole. All conductors are to be continuous without splices between terminals.

Remove existing foundations which are to be abandoned a minimum of one foot (1') below subgrade or two feet (2') below natural ground. This work is considered subsidiary to Item 680, "Highway Traffic Signals".

When D3-1 signs are required, provide one piece 0.080" (80 mil) thick aluminum alloy sheet sign blank with Type C (high specific intensity) green sign background and Type C (high specific intensity) white letters, border, and/or symbols in accordance with the details shown on the plans.

Initially operate traffic signals at new locations in flash mode until such time as is approved so that phase sequencing may be initiated.

Ensure the safe movement of traffic through any intersection where construction renders an existing traffic signal inoperable. Enlist off-duty law enforcement officers to assist in maintaining safe and efficient traffic movement through a disabled signalized intersection. Give the Engineer 48 hours advance notification prior to disabling any traffic signal and at that time inform the Engineer of the method or methods of ensuring safe movement of traffic through the intersection. Enlistment of off-duty law enforcement will not be paid for directly, but is considered subsidiary to this bid item.

Changes in the locations of poles, conduit, pull boxes, or other items as shown on the plans may be made in those instances deemed necessary, or when requested by the Contractor and approved.

Replace any LEDs that fail during the thirty (30) day test period in a timely manner. Equipment and incidentals necessary for replacement of failed LEDs are considered subsidiary to the various bid items and will not be paid for directly.

Supply a TS-2 Type 1 traffic signal controller assembly with an Intelight X3 Controller. Verify the controller has Ethernet capability, an internal embedded web page (web server), along with internal

Power over Ethernet (POE), and 4 port harden internal Ethernet switch. The web browser and controller must have the capability to have separate passwords and both are I.P. addressable. Provide the controller with the latest firmware release. Provide the software and all necessary components for an intelligent detection control system. Provide Cabinet Option 4 as defined by DMS-11170.

### **Item 682: Vehicle and Pedestrian Signal Heads**

Replace any LEDs that fail during the thirty (30) day test period in a timely manner. Equipment and incidentals necessary for replacement of failed LEDs are considered subsidiary to the various bid items and will not be paid for directly.

Use aluminum signal heads and components for this project.

### **Item 684: Traffic Signal Cables**

Attach permanent non-metallic tags to each signal cable in the access compartment of each signal pole and inside the traffic signal controller cabinet. Conductor(s) and/or cable(s) which connects signal heads to the terminal block will be tagged to indicate which specific signal head is being served. Signal cable at the traffic signal controller cabinet will be tagged to identify separate signal phases. Material, labor, tools, equipment, and incidentals are necessary to perform this work are subsidiary to the various bid items.

### **Item 752: Tree and Brush Removal**

Remove brush at the following locations:

- Fairgrounds Road: Sta 101+75.68 to Sta 106+50
- SH 137: Sta 101+53.09 to Sta 107+00
- CR 2070: Sta 10+50 to Sta 12+71.19

### **Item 3077: Superpave Mixtures**

#### Binder:

Provide a binder that has a Performance Grade of 70-22 (PG 70-22) for the Type B mix.

#### Aggregate quality:

Furnish Class B aggregate for the Type B mix.

Furnish aggregates for the shoulders and/or ramps that meet project SAC requirements.

Magnesium sulfate soundness loss will not be greater than 20 percent when Class A aggregate is required.

#### Mixture design:

Design a mixture with a gradation that has stone on stone contact and passes below the reference zone.



Test method Tex-530-C (Boil Test) will not be required.

Placement:

Semi-trailer type vehicles are prohibited from dumping directly into the finishing machine for the finished surface unless the trailer is equipped with an auger slatted chain or another approved conveyor.

No RAP will be allowed in the surface course.

No more than 10% RAP will be allowed in non-surface courses.

No RAS will be allowed.

Mineral filler will not be allowed.

Lime will not be allowed as an anti-stripping agent.

Field sand will not be allowed.

**Item 6001: Portable Changeable Message Sign**

PCMS shall be placed in operation a minimum of one (1) week prior to construction. Location(s) and duration for PCMS shall be as directed by the Engineer.

**Item 6185: Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)**

General Note 6 of TCP (1-2)-18 provides for additional shadow vehicle(s) with truck mounted attenuator (TMA); one (1) additional shadow vehicle with TMA is included in the basis of estimate for this operation. The shadow vehicle(s) with TMA specified on the traffic control plan as “required” plus the ‘additional shadow vehicle’ is the quantity that has been estimated for this operation.

General Note 5 of TCP (2-1)-18 provides for additional shadow vehicle(s) with truck mounted attenuator (TMA); one (1) additional shadow vehicle with TMA is included in the basis of estimate for this operation. The shadow vehicle(s) with TMA specified on the traffic control plan as “required” plus the ‘additional shadow vehicle’ is the quantity that has been estimated for this operation.

General Note 8 of TCP (2-3)-18 provides for additional shadow vehicle(s) with truck mounted attenuator (TMA); one (1) additional shadow vehicle with TMA is included in the basis of estimate for this operation. The shadow vehicle(s) with TMA specified on the traffic control plan as “required” plus the ‘additional shadow vehicle’ is the quantity that has been estimated for this operation.

General Note 4 of TCP (2-5)-18 provides for additional shadow vehicle(s) with truck mounted attenuator (TMA); one (1) additional shadow vehicle with TMA is included in the basis of estimate for this operation. The shadow vehicle(s) with TMA specified on the traffic control plan as “required” plus the ‘additional shadow vehicle’ is the quantity that has been estimated for this operation.

Basis of Estimate for Stationary TMA (BI 20 at Fairgrounds - CSJ 0005-03-068):

Phase	No. of TMA's	Phase duration (days)	Total quantity of TMA (days)
Phase 2 Step 1	2	2	4
Phase 2 Step 2	3	74	222
Phase 2 Step 3	2	43	86
Phase 3	2	29	58
Phase 4	2	15	30
Total:			400

Basis of Estimate for Stationary TMA (BI 20 at Garfield - CSJ 0005-09-020):

Phase	No. of TMA's	Phase duration (days)	Total quantity of TMA (days)
Phase 2 Step 1	2	32	64
Phase 2 Step 2	2	20	40
Phase 3 Step 1	2	89	178
Phase 3 Step 2	2	37	74
Total:			356

Basis of Estimate for Stationary TMA (BI 20 at SH 137 - CSJ 0005-16-016):

Phase	No. of TMA's	Phase duration (days)	Total quantity of TMA (days)
Phase 2	2	91	182
Phase 3	1	80	80
Phase 4	2	26	52
Total:			314

There are no General Notes for additional shadow vehicle(s) with truck mounted attenuator (TMA) on TCP (3-1)-13; the shadow vehicle(s) with TMA specified on the traffic control plan as “required” is the quantity that has been estimated for this operation.

There are no General Notes for additional shadow vehicle(s) with truck mounted attenuator (TMA) on TCP (3-3)-14; the shadow vehicle(s) with TMA specified on the traffic control plan as “required” is the quantity that has been estimated for this operation.

Basis of Estimate for Mobile TMA (BI 20 at Fairgrounds - CSJ 0005-03-068):

Phase	No. of TMA's	Phase duration (days)	Hours per work day (hr/day)	Total quantity of TMA (hr)
Phase 5	1	3	8	24
Total:				24

Basis of Estimate for Mobile TMA (BI 20 at Garfield - CSJ 0005-09-020):

Phase	No. of TMA's	Phase duration (days)	Hours per work day (hr/day)	Total quantity of TMA (hr)
Phase 4	1	3	8	24
Total:				24

Basis of Estimate for Mobile TMA (BI 20 at SH 137 - CSJ 0005-16-016):

Phase	No. of TMA's	Phase duration (days)	Hours per work day (hr/day)	Total quantity of TMA (hr)
Phase 5	1	3	8	24
Total:				24

The Contractor will be responsible for determining if one or more operations will be ongoing at the same time to determine the total number of TMAs needed for the project.

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