

# NOTIFICATION OF ADDENDUM

## ADDENDUM NO. 1

**DATED 5/31/2022**

<b>Control</b>	<b>0005-01-115, ETC.</b>
<b>Project</b>	<b>STP 2022(581)HES</b>
<b>Highway</b>	<b>BI 20-E, ETC.</b>
<b>County</b>	<b>ECTOR, 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 2022(581)HES CONTROL: 0005-01-115  
COUNTY: ECTOR  
LETTING: 06/02/2022  
REFERENCE NO: 0524

**PROPOSAL ADDENDUMS**

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

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

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

ALL BID INSERT PROPOSAL SHEETS AND E&Q PLAN SHEETS 4A - 4C ARE REPLACED AS PART OF THIS ADDENDUM.

REVISED QUANTITIES FOR THE FOLLOWING BID ITEMS:

621-6005, 636-6001, 682-6003

ADDED THE FOLLOWING BID ITEMS:

686-6045

DELETED THE FOLLOWING BID ITEMS:

416-6030, 686-6047

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

GENERAL NOTE PROPOSAL SHEET G AND PLAN SHEET 3C ARE REPLACED AS PART OF THIS ADDENDUM

SHEET G: ITEM 680 REMOVED NOTE  
DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

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

SHEET 3C (GENERAL NOTES): REFER TO GENERAL NOTES CHANGES AS NOTED ABOVE

SHEET 4A - 4C (ESTIMATE & QUANTITY): REFER TO BID INSERTS CHANGES AS NOTED ABOVE

SHEETS 5 - 6: REMOVED ITEMS

SHEETS 8, 10: REMOVED ITEM, ADDED ITEM, REVISED QUANTITIES

SHEETS 48 - 49: ADDED PLAN SHEET NUMBERS AND ADDED ADDITIONAL ALLUMINUM SIGNS

SHEETS 78 - 79: REMOVED COBRA HEAD LUMINAIRE AND UPDATED QUANTITIES

SHEET 91: UPDATED QUANTITIES IN SHIPPING PARTS LIST TABLE

SHEET 103: ADDED INFO FOR 24" DIAMETER

SHEETS 122 - 124: REVISED PLAN SHEET NUMBERS

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

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

PROJECT STP 2022(581)HES  
 COUNTY ECTOR , ETC.

Proposal Sheet  
 TxDOT  
 FORM 234-B I-61-5M

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	416	6031		DRILL SHAFT (TRF SIG POLE) (30 IN) DOLLARS and CENTS	LF	92.000	1
	416	6032		DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	70.000	2
	416	6034		DRILL SHAFT (TRF SIG POLE) (48 IN) DOLLARS and CENTS	LF	94.000	3
	500	6001		MOBILIZATION DOLLARS and CENTS	LS	1.000	4
	502	6001	008	BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	4.000	5
	506	6042	005	BIODEG EROSN CONT LOGS (INSTL) (18") DOLLARS and CENTS	LF	390.000	6
	506	6043	005	BIODEG EROSN CONT LOGS (REMOVE) DOLLARS and CENTS	LF	390.000	7
	618	6023		CONDT (PVC) (SCH 40) (2") DOLLARS and CENTS	LF	3,806.000	8
	618	6024		CONDT (PVC) (SCH 40) (2") (BORE) DOLLARS and CENTS	LF	956.000	9
	618	6029		CONDT (PVC) (SCH 40) (3") DOLLARS and CENTS	LF	880.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	618	6030		CONDT (PVC) (SCH 40) (3") (BORE) DOLLARS and CENTS	LF	463.000	11
	618	6033		CONDT (PVC) (SCH 40) (4") DOLLARS and CENTS	LF	547.000	12
	618	6034		CONDT (PVC) (SCH 40) (4") (BORE) DOLLARS and CENTS	LF	276.000	13
	618	6046		CONDT (PVC) (SCH 80) (2") DOLLARS and CENTS	LF	523.000	14
	618	6058		CONDT (PVC) (SCH 80) (4") DOLLARS and CENTS	LF	350.000	15
	618	6059		CONDT (PVC) (SCH 80) (4") (BORE) DOLLARS and CENTS	LF	540.000	16
	620	6009		ELEC CONDR (NO.6) BARE DOLLARS and CENTS	LF	8,806.000	17
	620	6010		ELEC CONDR (NO.6) INSULATED DOLLARS and CENTS	LF	4,084.000	18
	620	6012		ELEC CONDR (NO.4) INSULATED DOLLARS and CENTS	LF	165.000	19
	621	6005		TRAY CABLE (4 CONDR) (12 AWG) DOLLARS and CENTS	LF	1,102.000	20
	624	6002		GROUND BOX TY A (122311)W/APRON DOLLARS and CENTS	EA	35.000	21
	624	6008		GROUND BOX TY C (162911)W/APRON DOLLARS and CENTS	EA	8.000	22

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	624	6010		GROUND BOX TY D (162922)W/APRON DOLLARS and CENTS	EA	3.000	23
	628	6145		ELC SRV TY D 120/240 060(NS)SS(E)SP(O) DOLLARS and CENTS	EA	4.000	24
	636	6001	001	ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	248.000	25
	644	6001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	7.000	26
	644	6004		IN SM RD SN SUP&AM TY10BWG(1)SA(T) DOLLARS and CENTS	EA	39.000	27
	644	6007		IN SM RD SN SUP&AM TY10BWG(1)SA(U) DOLLARS and CENTS	EA	4.000	28
	644	6030		IN SM RD SN SUP&AM TYS80(1)SA(T) DOLLARS and CENTS	EA	1.000	29
	644	6033		IN SM RD SN SUP&AM TYS80(1)SA(U) DOLLARS and CENTS	EA	2.000	30
	644	6076		REMOVE SM RD SN SUP&AM DOLLARS and CENTS	EA	61.000	31
	666	6030	007	REFL PAV MRK TY I (W)8"(DOT)(100MIL) DOLLARS and CENTS	LF	66.000	32
	666	6036	007	REFL PAV MRK TY I (W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	5,190.000	33
	666	6048	007	REFL PAV MRK TY I (W)24"(SLD)(100MIL) DOLLARS and CENTS	LF	428.000	34

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	ITEM NO	DESC CODE	S.P. NO.				
	666	6054	007	REFL PAV MRK TY I (W)(ARROW)(100MIL) DOLLARS and CENTS	EA	23.000	35
	666	6078	007	REFL PAV MRK TY I (W)(WORD)(100MIL) DOLLARS and CENTS	EA	23.000	36
	666	6102	007	REF PAV MRK TY I(W)36"(YLD TRI)(100MIL) DOLLARS and CENTS	EA	6.000	37
	666	6147	007	REFL PAV MRK TY I (Y)24"(SLD)(100MIL) DOLLARS and CENTS	LF	14.000	38
	666	6300	007	RE PM W/RET REQ TY I (W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	2,003.000	39
	666	6303	007	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	12,984.000	40
	666	6312	007	RE PM W/RET REQ TY I (Y)4"(BRK)(100MIL) DOLLARS and CENTS	LF	292.000	41
	666	6315	007	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	15,912.000	42
	668	6034		PREFAB PAV MRK TY B (W)(36")(YLD TRI) DOLLARS and CENTS	EA	13.000	43
	672	6007		REFL PAV MRKR TY I-C DOLLARS and CENTS	EA	200.000	44
	672	6009		REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	518.000	45
	672	6010		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	159.000	46

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	ITEM NO	DESC CODE	S.P. NO.				
	677	6001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	31,191.000	47
	677	6003		ELIM EXT PAV MRK & MRKS (8") DOLLARS and CENTS	LF	4,905.000	48
	677	6007		ELIM EXT PAV MRK & MRKS (24") DOLLARS and CENTS	LF	300.000	49
	677	6008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	17.000	50
	677	6012		ELIM EXT PAV MRK & MRKS (WORD) DOLLARS and CENTS	EA	18.000	51
	677	6019		ELIM EXT PAV MRK & MRKS (36")(YLD TRI) DOLLARS and CENTS	EA	16.000	52
	680	6002	006	INSTALL HWY TRF SIG (ISOLATED) DOLLARS and CENTS	EA	4.000	53
	682	6001		VEH SIG SEC (12")LED(GRN) DOLLARS and CENTS	EA	41.000	54
	682	6002		VEH SIG SEC (12")LED(GRN ARW) DOLLARS and CENTS	EA	12.000	55
	682	6003		VEH SIG SEC (12")LED(YEL) DOLLARS and CENTS	EA	69.000	56
	682	6004		VEH SIG SEC (12")LED(YEL ARW) DOLLARS and CENTS	EA	12.000	57
	682	6005		VEH SIG SEC (12")LED(RED) DOLLARS and CENTS	EA	41.000	58



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	ITEM NO	DESC CODE	S.P. NO.				
	682	6006		VEH SIG SEC (12")LED(RED ARW) DOLLARS and CENTS	EA	10.000	59
	682	6033		BACK PLATE (12")(1 SEC)(VENTED)ALUM DOLLARS and CENTS	EA	12.000	60
	682	6050		BACKPLATE W/REFL BRDR(5 SEC) DOLLARS and CENTS	EA	4.000	61
	682	6054		BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM DOLLARS and CENTS	EA	18.000	62
	682	6055		BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM DOLLARS and CENTS	EA	2.000	63
	682	6060		BACKPLATE W/REFL BRDR(3 SEC) DOLLARS and CENTS	EA	25.000	64
	684	6009		TRF SIG CBL (TY A)(12 AWG)(4 CONDR) DOLLARS and CENTS	LF	3,518.000	65
	684	6030		TRF SIG CBL (TY A)(14 AWG)(4 CONDR) DOLLARS and CENTS	LF	672.000	66
	684	6033		TRF SIG CBL (TY A)(14 AWG)(7 CONDR) DOLLARS and CENTS	LF	4,339.000	67
	684	6038		TRF SIG CBL (TY A)(14 AWG)(12 CONDR) DOLLARS and CENTS	LF	3,469.000	68
	685	6001		INSTALL RDS FLASH BEACON ASSEMBLY DOLLARS and CENTS	EA	4.000	69
	685	6003		REMOVE RDS FLASH BEACON ASSEMBLY DOLLARS and CENTS	EA	4.000	70

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	685	6004		INSTL RDS D FLSH BCN ASSM (SOLAR PWRD)  DOLLARS and CENTS	EA	10.000	71
	686	6025		INS TRF SIG PL AM (S)1 ARM(24')  DOLLARS and CENTS	EA	1.000	72
	686	6027		INS TRF SIG PL AM(S)1 ARM(24')LUM  DOLLARS and CENTS	EA	2.000	73
	686	6031		INS TRF SIG PL AM(S)1 ARM(28')LUM  DOLLARS and CENTS	EA	2.000	74
	686	6035		INS TRF SIG PL AM(S)1 ARM(32')LUM  DOLLARS and CENTS	EA	2.000	75
	686	6039		INS TRF SIG PL AM(S)1 ARM(36')LUM  DOLLARS and CENTS	EA	2.000	76
	686	6041		INS TRF SIG PL AM(S)1 ARM(40')  DOLLARS and CENTS	EA	1.000	77
	686	6045		INS TRF SIG PL AM(S)1 ARM(44')  DOLLARS and CENTS	EA	2.000	78
	686	6055		INS TRF SIG PL AM(S)1 ARM(50')LUM  DOLLARS and CENTS	EA	2.000	79
	686	6057		INS TRF SIG PL AM(S)1 ARM(55')  DOLLARS and CENTS	EA	1.000	80
	686	6059		INS TRF SIG PL AM(S)1 ARM(55')LUM  DOLLARS and CENTS	EA	1.000	81
	6056	6001		PREFORMED IN-LANE(TRANS) RUMBLE STRIP  DOLLARS and CENTS	LF	320.000	82

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6058	6001		BBU SYSTEM (EXTERNAL BATT CABINET) DOLLARS and CENTS	EA	1.000	83
	6083	6001		VIDEO IMAGING AND RAD VEH DETEC- TION SYS DOLLARS and CENTS	EA	1.000	84
	6185	6002	002	TMA (STATIONARY) DOLLARS and CENTS	DAY	50.000	85
	6185	6003	002	TMA (MOBILE OPERATION) DOLLARS and CENTS	HR	104.000	86
	6306	6002		VIVDS CAM ASSY FXD LNS DOLLARS and CENTS	EA	10.000	87
	6306	6005		VIVDS CNTRL SOFTWARE DOLLARS and CENTS	EA	3.000	88
	6306	6007		VIVDS CABLING DOLLARS and CENTS	LF	2,350.000	89

The following note will be included on all projects per Design Division instructions.

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**

For any structures containing bird nests, schedule all work to complete the demolition of the existing structures identified in the plans between September 15, 2022 and March 15, 2023. Failure to complete this work during the specified timeframe may cause construction delays due to environmental regulations.

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

Use Method C for construction surveying.

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.

At any time during construction that a previously installed crash cushion is damaged by the traveling public and is requested to be repaired by the Engineer, the repair will be paid at the same unit cost as the original installation.

### **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)

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

Maintain ingress and egress to the frontage roads 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. 3.1.1. "Five-Day Workweek."

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 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.

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 449: Anchor Bolts**

Prior to installation of nuts for traffic signal poles, roadway illumination poles, high mast illumination poles, or overhead sign support structures, coat the entire length of exposed anchor bolt threads with Crouse-Hinds Tl-2, O-Z Gedney Stl, Or Thomas & Betts Kopr-Shield compound electrically conducting protective thread lubricant.

**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 no regulatory work zone speed reduction within the project limits.

Place chevrons, at a minimum, on every other drum used for outsides of curves, merging tapers and shifting tapers.

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 Biodegradable Erosion Control Logs.

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".

**-Biodegradable Erosion Control Logs**

The total disturbed area for this project is 1 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 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.

For conduit raceways that are intended to remain empty or unused, extend the lower end of conduit from the face of the foundation to a minimum of 1' beyond the edge of the foundation or the riprap apron, whichever is farthest, and use conduit cap fittings for both ends of conduit. Do not glue caps or use duct tape when capping ends of conduit raceways that are intended to remain empty. Prevent dirt and debris from entering raceways during construction by temporarily capping both ends of open raceways. Other than conduit raceways that are intended to remain unused, fit each exposed end of raceways with a bushing. Where steel raceway is used, install a ground-type bushing and connect the bushing and ground rod with a bonding jumper.

### **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 622: Duct Cable**

Provide a minimum of 24" cover over trenched duct cable. Where rocky soil is encountered, place duct on a 2" sand cushion and backfill with a minimum of 6" sand fill.

Place a single continuous piece of warning tape in accordance with Item 618, conduit, along the entire length of each underground duct cable installation. Locate warning tape approximately twelve inches above the duct as indication that a buried electrical line exists below the tape.

For conductors in duct cable, provide one (1) black XHHW insulated conductor, and one (1) red XHHW insulated conductor for ungrounded conductors, and provide one (1) green XHHW or bare conductor for the grounding conductor. Do not use red tape to color code a black insulated conductor. Unless otherwise approved, use full jacket color coding of conductor insulation.

### **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 ½" 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)".

Locate and mark existing reference marker(s) perpendicular to the road and along the right of way, or as directed, prior to removal. Erect new reference marker(s) at the original location, upon completion of construction.

Only bolt clamp style slip bases will be allowed for sign assemblies. Set screws will not be allowed.

Note to designer: The note requires a sole source letter. Check with plan reviewers for approved memo for our use in our district.

#### **Item 656: Foundations for Traffic Control Devices**

Install a 5/8" x 8' copper clad ground rod in all signal poles and signal controller foundations, and make a system ground connection at the ground rod in addition to the ground connection required by the standard sheet, "Traffic Signal Controller Slab and Base". Maintain two inches (2") of ground rod extension above the finish surface of the foundation. Material, labor, tools, and incidentals necessary to provide and install this ground rod are considered subsidiary to the various bid items.

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### **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 672: Raised Pavement Markers**

### **Item 677: Eliminating Existing Pavement Markings and Markers**

Submit eliminating plan for approval by the Engineer in accordance with Item 677.

### **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. Overhead signs D3-1 and R10-12 are subsidiary item 680.

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 685: Roadside Flashing Beacon Assemblies**

Provide a minimum of 7 feet from the roadway surface to the bottom of the flashing signal head.

Use concrete drilled shaft foundations for this project.

Use Sch. 80 poles to help with breaking over in high winds.

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

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 6 of TCP (2-4)-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 TMAs			
	TMA (Mobile Operation)		
Standard	Required	Optional	Total
TCP(2-1)-18	2	1	3
TCP(2-3)-18, TCP(2-4)-18	2	1	3
TCP(2-5)-18	2	1	3

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.

There are no General Notes for additional shadow vehicle(s) with truck mounted attenuator (TMA) on TCP (3-4)-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.

Basis of Estimate for Stationary TMAs			
	TMA (Mobile Operation)		
Standard	Required	Optional	Total
TCP(3-1)-13	2	0	2
TCP(3-3)-14, TCP(3-4)-13	2	0	2

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**Sheet:**  
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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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