Control	**6468-07-001**
Project	**RMC - 646807001**
Highway	**IH0035**
County	**TRAVIS**

ADDENDUM ACKNOWLEDGMENT

Each bidder is required to acknowledge receipt of an addendum issued for a specific project. This page is provided for the purpose of acknowledging an addendum.

FAILURE TO ACKNOWLEDGE RECEIPT OF AN ADDENDUM WILL RESULT IN THE BID NOT BEING READ.

In order to properly acknowledge an addendum place a mark in the box next to the respective addendum.

ADDENDUM NO. 1 ☐

ADDENDUM NO. 2 ☐

ADDENDUM NO. 3 ☐

ADDENDUM NO. 4 ☐

ADDENDUM NO. 5 ☐

In addition, the bidder by affixing their signature to the signature page of the proposal is acknowledging that they have taken the addendum(s) into consideration when preparing their bid and that the information contained in the addendum will be included in the contract, if awarded by the Commission or other designees.

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Control	**6468-07-001**
Project	**RMC - 646807001**
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County	**TRAVIS**

PROPOSAL TO THE TEXAS TRANSPORTATION COMMISSION

2024 SPECIFICATIONS

WORK CONSISTING OF TRAFFIC SIGNAL MAINTENANCE

TRAVIS COUNTY, TEXAS

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 730 calendar 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:

TWENTY-SIX THOUSAND (Dollars) **($26,000)**

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 calendar 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.

TEXAS DEPARTMENT OF TRANSPORTATION

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS,

That we, (Contractor Name) _____

_____

Hereinafter called the Principal, and (Surety Name) _____

_____

a corporation or firm duly authorized to transact surety business in the State of Texas, hereinafter called the Surety, are held and firmly bound unto the Texas Department of Transportation, hereinafter called the Obligee, in the sum of not less than two percent (2%) of the department's engineer's estimate, rounded to the nearest one thousand dollars, not to exceed one hundred thousand dollars ($100,000) as a proposal guaranty (amount displayed on the cover of the proposal), the payment of which sum will and truly be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the principal has submitted a bid for the following project identified as:

Control	**6468-07-001**
Project	**RMC - 646807001**
Highway	**IH0035**
County	**TRAVIS**

NOW, THEREFORE, if the Obligee shall award the Contract to the Principal and the Principal shall enter into the Contract in writing with the Obligee in accordance with the terms of such bid, then this bond shall be null and void. If in the event of failure of the Principal to execute such Contract in accordance with the terms of such bid, this bond shall become the property of the Obligee, without recourse of the Principal and/or Surety, not as a penalty but as liquidated damages.

Signed this _____ Day of _____ 20_____

By: _____

(Contractor/Principal Name)

_____

(Signature and Title of Authorized Signatory for Contractor/Principal)

*By: _____

(Surety Name)

_____

(Signature of Attorney-in-Fact)

*Attach Power of attorney (Surety) for Attorney-in-Fact

Impressed Surety Seal Only

This form may be removed from the proposal.

CUT HERE

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BIDDER'S CHECK RETURN

IMPORTANT

The space provided for the return address must be completed to facilitate the return of your bidder's check. Care must be taken to provide a legible, accurate, and <u>complete</u> return address, including zip code. A copy of this sheet should be used for each different return address.

NOTE

Successful bidders will receive their guaranty checks with the executed contract.

RETURN BIDDERS CHECK TO (PLEASE PRINT):

Control	**6468-07-001**
Project	**RMC - 646807001**
Highway	**IH0035**
County	**TRAVIS**

IMPORTANT

PLEASE RETURN THIS SHEET IN ITS ENTIRETY

Please acknowledge receipt of this check(s) at your earliest convenience by signing below in longhand, in ink, and returning this acknowledgement in the enclosed self addressed envelope.

Check Received By: _____ Date:_____

Title: _____

For (Contractor's Name): _____

Project _____ County_____

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NOTICE TO THE BIDDER

In the space provided below, please enter your total bid amount for this project. Only this figure will be read publicly by the Department at the public bid opening.

It is understood and agreed by the bidder in signing this proposal that the total bid amount entered below is not binding on either the bidder or the Department. It is further agreed that **the official total bid amount for this proposal will be determined by multiplying the unit bid prices for each pay item by the respective estimated quantities shown in this proposal and then totaling all of the extended amounts.**

$_____

Total Bid Amount

Control 0001-03-030
Project STP 2000(938)HES
Highway SH 20
County EL PASO

ALT	ITEM	DESC	SP	Bid Item Description	Unit	Quantity	Bid Price	Amount	Seq
	104	509		REMOV CONC (SDWLK)	SY	266.400	$10.000	$2,664.00	1

EXAMPLE

Total Bid Amount _____$2,664.00_____

Signed _____
Title _____
Date _____

Additional Signature for Joint Venture:

Signed _____
Title _____
Date _____

EXAMPLE OF BID PRICES SUBMITTED BY COMPUTER PRINTOUT

EXAMPLES

BID PRICES SUBMITTED BY HAND WRITTEN FORMAT

ALT	ITEM-CODE			UNIT BID PRICE ONLY WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC NO	S.P. NO.				
	190	026		RED OAK 1 1/2 - 1 3/4 GAL BB	EA	9.000	1
				EXAMPLE: One hundred fifty DLRS and No CENTS			

Unit price for each plant in place

	249	014		FLEX BASE(DEL)(DENSCOT)(TY A GR4 CL2)	TON	56,787.00	14
				EXAMPLE: Seven DLRS and Fifty three CENTS			

Unit price for each ton of Flexible Base

	430	001	001	CL A CONC FOR EXT STR (CULV)	CY	45.000	27
				EXAMPLE: Three hundred five DLRS and No CENTS			

Unit price for each cubic yard of Concrete

	610	007	001	RDWY ILL ASSEM(TY ST 50T-8-8)(.4 KW)S	EA	13.000	7
				EXAMPLE: Fourteen hundred sixteen DLRS and Thirty seven CENTS			

Unit price of each Roadway Illumination Assembly

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ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	500	7002		MOBILIZATION (CALLOUT) DOLLARS and CENTS	EA	360.000	1
	620	7001		ELEC CONDR (NO.14) BARE DOLLARS and CENTS	LF	1,000.000	2
	620	7002		ELEC CONDR (NO.14) INSULATED DOLLARS and CENTS	LF	1,000.000	3
	620	7003		ELEC CONDR (NO.12) BARE DOLLARS and CENTS	LF	1,000.000	4
	620	7004		ELEC CONDR (NO.12) INSULATED DOLLARS and CENTS	LF	1,000.000	5
	620	7007		ELEC CONDR (NO.8) BARE DOLLARS and CENTS	LF	1,000.000	6
	620	7008		ELEC CONDR (NO.8) INSULATED DOLLARS and CENTS	LF	1,000.000	7
	620	7009		ELEC CONDR (NO.6) BARE DOLLARS and CENTS	LF	1,000.000	8
	620	7010		ELEC CONDR (NO.6) INSULATED DOLLARS and CENTS	LF	1,000.000	9
	682	7045		RETROFIT REFL BRDR SHEETING (3 SEC) DOLLARS and CENTS	EA	20.000	10
	682	7046		RETROFIT REFL BRDR SHEETING (4 SEC) DOLLARS and CENTS	EA	20.000	11
	682	7047		RETROFIT REFL BRDR SHEETING (5 SEC) DOLLARS and CENTS	EA	20.000	12

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	684	7007		TRF SIG CBL (TY A)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	1,000.000	13
	684	7010		TRF SIG CBL (TY A)(12 AWG)(5 CONDR) DOLLARS and CENTS	LF	1,000.000	14
	684	7012		TRF SIG CBL (TY A)(12 AWG)(7 CONDR) DOLLARS and CENTS	LF	1,000.000	15
	6005	7001		ITS COM CBL (ETHERNET) DOLLARS and CENTS	LF	1,000.000	16
	6006	7001		VIVDS PROSR SYS DOLLARS and CENTS	EA	2.000	17
	6006	7002		VIVDS CAM ASSY FXD LNS DOLLARS and CENTS	EA	2.000	18
	6006	7005		VIVDS CNTRL SOFTWARE DOLLARS and CENTS	EA	2.000	19
	6006	7007		VIVDS CABLING DOLLARS and CENTS	LF	1,000.000	20
	6006	7017		VIVDS PROS CABINET EQUIP (REMOVE) DOLLARS and CENTS	EA	2.000	21
	6006	7018		VIVDS CAM ASSY (REMOVE) DOLLARS and CENTS	EA	2.000	22
	6006	7020		VIVDS CABLING (REMOVE) DOLLARS and CENTS	LF	1,000.000	23
	6008	7001		RVDS (PRESENCE DETECTION ONLY) DOLLARS and CENTS	EA	2.000	24

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6008	7002		RVDS (ADVANCE DETENTION ONLY) DOLLARS and CENTS	EA	2.000	25
	6008	7003		RVDS (PRESENCE AND ADVANCE DETEC-TION) DOLLARS and CENTS	EA	2.000	26
	6026	7001		PREVENTIVE MAINTENANCE DOLLARS and CENTS	EA	25.000	27
	6026	7002		REPLACE BACK PLATE (12") (1 SEC) DOLLARS and CENTS	EA	5.000	28
	6026	7003		REPLACE RSFB SIG HEAD DOLLARS and CENTS	EA	10.000	29
	6026	7004		REPLACE FUSE DOLLARS and CENTS	EA	5.000	30
	6026	7005		REPLACE BREAKAWAY FUSE HOLDER DOLLARS and CENTS	EA	5.000	31
	6026	7006		REPL 12" LED TRF SIG LAMP UNIT (RED) DOLLARS and CENTS	EA	5.000	32
	6026	7007		REPL 12" LED TRF SIG LAMP UNIT (AMBER) DOLLARS and CENTS	EA	5.000	33
	6026	7008		INSTALL RSFB RELATED SIGN ASSEM DOLLARS and CENTS	EA	5.000	34
	6026	7009		REMOVE RSFB RELATED SIGN ASSEM DOLLARS and CENTS	EA	5.000	35
	6026	7010		REPLACE RSFB RELATED SIGN ASSEM DOLLARS and CENTS	EA	5.000	36

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6026	7011		INSTALL TUNNEL VISOR DOLLARS and CENTS	EA	5.000	37
	6026	7012		REPLACE TUNNEL VISOR DOLLARS and CENTS	EA	5.000	38
	6026	7013		REPL 12-VDC BATTERY DOLLARS and CENTS	EA	5.000	39
	6029	7001		PREVENTIVE MAINTENANCE DOLLARS and CENTS	EA	335.000	40
	6029	7002		LED RDWY LUMINAIRE (.25KW EQ) DOLLARS and CENTS	EA	5.000	41
	6029	7003		PHOTO CELL (REPLACE) DOLLARS and CENTS	EA	5.000	42
	6029	7004		BACK PLATE (12") (1 SEC) DOLLARS and CENTS	EA	5.000	43
	6029	7005		BACK PLATE (12") (3 SEC) DOLLARS and CENTS	EA	5.000	44
	6029	7006		BACK PLATE (12") (4 SEC) DOLLARS and CENTS	EA	5.000	45
	6029	7007		BACK PLATE (12") (5 SEC) DOLLARS and CENTS	EA	5.000	46
	6029	7008		PEDESTRIAN PUSH BUTTON (REPLACE) DOLLARS and CENTS	EA	2.000	47
	6029	7009		REPL VEH SIG SEC (12") LED (YEL) DOLLARS and CENTS	EA	5.000	48

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6029	7010		REPL VEH SIG SEC (12") LED (RED) DOLLARS and CENTS	EA	5.000	49
	6029	7011		REPLACE FUSE DOLLARS and CENTS	EA	5.000	50
	6029	7012		REPLACE BREAKAWAY FUSE HOLDER DOLLARS and CENTS	EA	5.000	51
	6029	7013		TRF SIG HD(REPL)(3SEC)(LED)W/BRKT BKPL DOLLARS and CENTS	EA	5.000	52
	6029	7014		TRF SIG HD(REPL)(4SEC)(LED)W/BRKT BKPL DOLLARS and CENTS	EA	5.000	53
	6029	7015		TRF SIG HD(REPL)(5SEC)(LED)W/BRKT BKPL DOLLARS and CENTS	EA	5.000	54
	6029	7016		SPAN CABLE (INSTALL) DOLLARS and CENTS	LF	2,000.000	55
	6029	7017		REPL 12" LED TRF SIG LAMP UNIT(RED) DOLLARS and CENTS	EA	5.000	56
	6029	7018		REPL 12" LED TRF SIG LAMP UNIT(AMBER) DOLLARS and CENTS	EA	5.000	57
	6029	7019		REPL 12" LED TRF SIG LAMP UNIT(GREEN) DOLLARS and CENTS	EA	5.000	58
	6029	7020		REPL 12"LED TRF SIG LAMP UNIT(GRN ARW) DOLLARS and CENTS	EA	5.000	59

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6029	7021		REPL 12"LED TRF SIG LAMP UNIT(AMB ARW) DOLLARS and CENTS	EA	5.000	60
	6029	7022		REPL 12"LED TRF SIG LAMP UNIT(RED ARW) DOLLARS and CENTS	EA	5.000	61
	6029	7023		PED SIG SEC (12")(2 IND)(HOUSING ONLY) DOLLARS and CENTS	EA	5.000	62
	6029	7024		LED COUNTDOWN PEDESTRIAN MODULE DOLLARS and CENTS	EA	5.000	63
	6029	7025		ILLUMINATION LAMP (REPLACE) DOLLARS and CENTS	EA	5.000	64
	6029	7026		INSTALL OF SIGNAL RELATED SIGNS DOLLARS and CENTS	SF	5.000	65
	6029	7027		REMOVAL OF SIGNAL RELATED SIGNS DOLLARS and CENTS	EA	5.000	66
	6029	7028		REPLACE OF SIGNAL RELATED SIGNS DOLLARS and CENTS	SF	5.000	67
	6029	7029		INSTALL OF TUNNEL VISOR DOLLARS and CENTS	EA	5.000	68
	6029	7030		REPLACE OF TUNNEL VISOR DOLLARS and CENTS	EA	5.000	69
	6029	7031		REPL 12-VDC BATTERY DOLLARS and CENTS	EA	5.000	70

CERTIFICATION OF INTEREST IN OTHER BID PROPOSALS FOR THIS WORK

By signing this proposal, the bidding firm and the signer certify that the following information, as indicated by checking “Yes” or “No” below, is true, accurate, and complete.

A. Quotation(s) have been issued in this firm's name to other firm(s) interested in this work for consideration for performing a portion of this work.

_____ YES

_____ NO

B. If this proposal is the low bid, the bidder agrees to provide the following information prior to award of the contract.

1. Identify firms which bid as a prime contractor and from which the bidder received quotations for work on this project.
2. Identify all the firms which bid as a prime contractor to which the bidder gave quotations for work on this project.

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352 (See reverse for public burden disclosure.)

1. Type of Federal Action: a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	2. Status of Federal Action: a. bid/offer/application b. initial award c. post-award	3. Report Type: a. initial filing b. grant For material change only: year _____ quarter _____ date of last report _____

4. **Name and Address of Reporting Entity:** ? Prime ? Subawardee Tier _____, if known: **Congressional District**, if known:	5. **If Reporting Entity in No. 4 is Subawardee,** Enter Name and Address of Prime: **Congressional District**, if known:
6. **Federal Department/Agency:**	7. **Federal Program Name/Description:** CFDA Number, if applicable: _____
8. **Federal Action Number**, if known:	9. **Award Amount,** if known: $ _____
10. a. Name and Address of Lobbying Entity (if individual, last name, first name, MI):	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

11. Amount of Payment (check all that apply): $ _____ actual planned 12. Form of Payment (check all that apply) a. cash b. in-kind; specify: nature _____ value _____	13. Type of Payment (check all that apply): a. retainer b. one-time fee c. commission d. contingent fee e. deferred f. other; specify: _____

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

15. **Continuation Sheet(s) SF-LLL-A attached:** ? Yes ? No

16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No: _____ Date: _____

FEDERAL USE ONLY	Authorized for Local Reproduction Standard Form - LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity or this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number, the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.
    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

Public reporting burdon for this collection of infromation is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments reguarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burdon, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB

0348-0046

CONTINUATION SHEET

Reporting Entity: _____ Page _____ of _____

ENGINEER SEAL

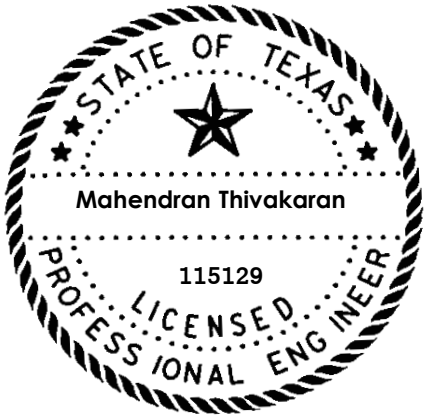
Control **6468-07-001**

Project **RMC - 646807001**

Highway **IH0035**

County **TRAVIS**

The enclosed Texas Department of Transportation Specifications, Special Specifications, Special Provisions, General Notes and Specification Data in this document have been selected by me, or under my responsible supervision as being applicable to this project. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.



The seal appearing on this document was authorized by

Mahendran Thivakaran, P.E.

AUGUST 26, 2024

GENERAL NOTES: Version: June 26, 2024

GENERAL

Contractor questions and requests for documents on this project are to be addressed to the following individual(s):

Traffic Mahendran.Thivakaran@txdot.gov
Traffic Cory.Jucius@txdot.gov

Questions and requests for documents will be accepted via the Letting Pre-Bid Q&A web page. All questions and any corresponding responses that are generated will be posted through the same Letting Pre-Bid Q&A web page. This webpage can be accessed from the Notice to Contractors dashboard located at the following Address:
https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors

The Letting Pre-Bid Q&A web page for each project can be accessed by using the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

This contract shall commence upon the issuance of a work order by the Engineer and shall continue for (2) two calendar years or until contract funds are expended, whichever occurs first.

The Contractor will be given written notice to begin work on this project. Each notification may contain multiple locations on multiple roadways in various counties within Austin District. Work must begin within seven (7) calendar days after each work order notification. Time charges will begin when work begins regardless of if it falls within seven (7) calendar days of the notification to begin work. The Contractor will have a maximum of twenty (20) working days to complete the assigned work order. A contractor issued multiple work orders, must be capable and sufficiently staffed to concurrently process any or all work orders at the same time.

If the Contractor does not complete the work in the allotted workdays, liquidated damages will be charged for each day that work remains incomplete. The bonding company will be notified each time liquidated damages begin accruing. Failure to prosecute the work to assure completion of each work order within the number of days specified is cause of default. The amount of liquidated damages assessed per work order will be based on the total contract amount.

Prior to beginning operations, attend a conference with the representatives of TxDOT. This meeting will be arranged by TxDOT. In this meeting, outline proposed work procedures and present plans for performing the work while providing for the safe passage of traffic at all times.

Work on this contract will be continuous. Contractor will not pull off to do other work without prior approval from the Engineer.

Perform work on various intersections within these counties (Austin District):
Bastrop, Blanco, Burnet, Caldwell, Gillespie, Hays, Lee, Llano, Mason, Travis and Williamson.
Daily work reports will be required at end of each day's operation.

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved.

Immediately notify the Engineer or a designated representative of all emergency situations. An after hours/holiday emergency number will be provided to the Contractor.

Notify the Engineer's representative 24 hours prior to the day that work is scheduled to specify work locations and projected start time.

Ensure that the Contractor's Project Manager or designated representative will be available 7 days a week. The Contractor shall have at all times a satisfactory and competent English speaking superintendent on the project, authorized to receive orders and to act on the Contractor's behalf. The Contractor shall designate to the Engineer the name of such superintendent.

An experienced crew will be available and used in the implementation of the work orders under this contract.

If work is performed at Contractor's option, when inclement weather is impending, and the work is damaged by subsequent precipitation, the Contractor is responsible for all costs associated with replacing the work, if required.

Furnish all materials, tools, and labor required to provide complete all specified work in accordance with the plans and specifications. Furnished materials will be new un-depreciated stock.

Equip all construction equipment used in roadway work with highly visible omnidirectional flashing warning lights.

All locations used for storing construction equipment, materials, and stockpiles of any type, within the right of way, will be as directed. Use of right of way for these purposes will be restricted to those locations where driver sight distance to businesses and side street intersections is not obstructed and at other locations where an unsightly appearance will not exist. The Contractor will not have exclusive use of right of way but will cooperate in the use of the right of way with the city/county and various public utility companies as required.

During evacuation periods for Hurricane events the Contractor will cooperate with Department for the restricting of Lane Closures and arranging for Traffic Control to facilitate Coastal Evacuation Efforts.

Solder and Weatherproof Wire Splice is subsidiary to Preventive Maintenance pay item.

Barricades, Signs and Traffic Handling and TMA are subsidiary to Mobilization pay item.

ITEM 2 – INSTRUCTIONS TO BIDDERS
Note that there is no guaranteed amount of work in this contract. Do not utilize the estimated quantities in determining the quantity of materials to be ordered for specific use within this project. The estimated quantities in the project proposal are estimates only to be used in the determination of the low bidder.

This Contract includes non-site-specific work. Multiple work orders will be used to procure work of the type identified in the Contract at locations that have not yet been determined.

A work order will be issued for each item of work, or as directed by the Engineer. The work order will include quantities of work which can reasonably be completed within the allowable completion time. The allowable response times and completion times for each work order is described in this contract and the work order. The Contractor will be charged liquidated damages for each work item not completed in accordance with the "Schedule of Liquidated Damages" for each workday until the work is completed and accepted by the Engineer. Liquidated damages will be based on the total contract amount. The costs associated with these measures will be deducted from any monies due to the Contractor.

If the Contractor does not begin work within the allowed response time from the date shown on the work order, a letter will be written giving ten (10) working days from the date of the letter to correct the problem or the contract will be considered in default.

In addition to being charged for liquidated damages, if the Contractor does not complete the work in the allotted workdays for each work item as noted in the work order, the Contractor will be written a letter giving ten (10) working days from the date of the letter to complete the work or the contract will be considered in default.

If the Contractor fails to complete work within the allowable times as noted in this contract and the work order, the Department may take steps to have the work completed/corrected. This may include the use of State Forces or Emergency Contracts. Once the Contractor is notified that the Department is taking corrective action, the Contractor shall refrain from performing work on the item in question unless approved by the Engineer. The costs associated with these measures will be deducted from any monies due to the Contractor.

ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES
Perform maintenance of vehicles or equipment at designated maintenance sites. Keep a spill kit on-site during fueling and maintenance. This work is subsidiary.

Law Enforcement Personnel.
Submit charge summary and invoices using the Department forms.

Patrol vehicles must be clearly marked to correspond with the officer's agency and equipped with appropriate lights to identify them as law enforcement. For patrol vehicles not owned by a

law enforcement agency, markings will be retroreflective and legible from 100 ft. from both sides and the rear of the vehicle. Lights will be high intensity and visible from all angles.

No payment will be made for law enforcement personnel needed for moving equipment or payment for drive time to/from the event site. A minimum number of hours is not guaranteed. Payment is for work performed. If the Contractor has a field office, provide an office location for a supervisory officer when event requires a supervising officer. This work is subsidiary.

A maximum combined rate of $85 per hour for the law enforcement personnel and the patrol vehicle will be allowed. Any scheduling fee is subsidiary per Standard Specification 502.4.2.

Cancel law enforcement personnel when the event is canceled. Cancellation, minimums or "show up" fees will not be paid when cancellation is made 12 hours prior to beginning of the event. Failure to cancel within 12 hours will not be cause for payment for cancellation, minimums, or "show up" time. Payment of actual "show up" time to the event site due to cancellation will be on a case-by-case basis at a maximum of 2 hours per officer.

Alterations to the cancellation and maximum rate must be approved by the Engineer or pre-determined by official policy of the officer's governing authority.

ITEM 8 – PROSECUTION AND PROGRESS

For each individual work order issued within this project, a working day will be defined as found within Item 8.3.1.4., standard workweek.

The monthly estimate will be deducted a cumulative lane closure assessment fee per 15-minute interval according to the following schedule for each lane closed or obstructed that extends beyond the allowable closure time.

Main Lanes (IH, SH and US Routes)
00-15 minutes $5,500.
16-30 minutes $12,500, added to previous period.
31-45 minutes $22,000, added to all previous periods.
46-60 minutes $33,000, added to all previous periods.
61+ minutes - $11,000 per 15-minute period added to all previous periods.

Frontage Roads (IH, SH and US Routes)
00-15 minutes $1,500.
16-30 minutes $2,500, added to previous period.
31-45 minutes $4,000, added to all previous periods.
46-60 minutes $7,000, added to all previous periods.
61+ minutes - $11,000 per 15-minute period added to all previous periods.

Other roadways (LP, FM, SPUR and RM)
00-15 minutes $1,500.
16-30 minutes $2,500, added to previous period.
31-45 minutes $4,000, added to all previous periods.

46-60 minutes $7,000, added to all previous periods.
61+ minutes - $11,000 per 15-minute period added to all previous periods.

ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING

Table 1

Roadway	Limits	Allowable Closure Time
IH 35	All (1 lane closed)	9 P to 5 A
IH 35	All (2 lanes closed, see allowable work below)	9 P to 5 A
IH 35	All (2 lanes closed, all work)	11 P to 5 A
SH 45	US 183 to SH130	8 P to 5 A
LP 1	William Cannon to Parmer Lane	8 P to 5 A
US 183	SH 29 to FM 1327	8 P to 5 A
SH 71	SH 130 to IH 35	8 P to 5 A
SH 71	SH 304 to Tahitian Drive	8 P to 5 A
SH 71	US 290 W to RM 3238	8 P to 5 A
US 290 W	IH 35 to Nutty Brown Rd	8 P to 5 A
US 290 E	IH 35 to SH 95	8 P to 5 A
FM 734	FM 1431 to US 290 E	8 P to 5 A
US 79	IH 35 to Bus 79 in Taylor	8 P to 5 A
RM 1431	Lohmans Ford Rd to IH 35	8 P to 5 A
SH 29	LP 332 western terminus to SH 130	8 P to 5 A
SH 80	Charles Austin to River Road	8 P to 5 A
RM 2222	All	8 P to 5 A
RM 620	All	8 P to 5 A
RM 2244	All	8 P to 5 A
SPUR 69	All	8 P to 5 A
LP 360	All	8 P to 5 A
LP 343	All	8 P to 5 A
LP 275	All	8 P to 5 A
FM 1325	All	8 P to 5 A
All	Within 200’ of a signalized intersection	9 P to 5 A
All	All (Full Closure, see allowable work below)	11 P to 4 A

For roadways without defined allowable closure times, nighttime lane closures will be allowed from 8 P to 6 A. Unless stated, daytime or Friday night lane closures will not be allowed and one lane in each direction will remain open at all times for all roadways.

No closures will be allowed on the weekends, working day prior, and working day after the National Holidays defined in the Standard Specifications, Good Friday, and Easter weekend.

No closures will be allowed 1 P.M. to 11 P.M. the Sunday of the Super Bowl.

Time charges will not be suspended during the large and special events listed below. These events are provided in the contract to allow scheduling of work around these lane closure restrictions.

All lanes will be open by noon of the day before the large events listed in below table. No closures will be allowed on Friday and the weekends for projects within 20 miles of these large events:

Table 4 (Large Events)

Event	City	Dates
Formula 1 @ COTA	Austin	Annually (See Event Website)
Moto GP @ COTA	Austin	Annually (See Event Website)
ACL Fest	Austin	Annually (See Event Website)
SXSW	Austin	Annually (See Event Website)
ROT Rally	Bastrop	Annually (See Event Website)
UT Football Games	Austin	Annually (See Event Website)
Sales Tax Holiday	All	Annually (See Event Website)
Rodeo Austin	Austin	Annually (See Event Website)

All lanes will be open by noon of the day before the special events listed in below table. No closures will be allowed on Friday and the weekends for projects within 10 miles of these special events:

Table 5 (Special Events)

Event	City	Dates
Eaker BBQ Competition	Fredericksburg	March 10, 2024
Sherwood Forest Faire	McDade / Paige	Weekends in March and April
Smithville Jamboree	Smithville	April 4-6, 2024
Two Step Inn	Georgetown	April 20-24, 2024
Wiener Dog Races	Buda	April 27-28, 2024
Founders Day Festival	Dripping Springs	April 26-28, 2024
Red Poppy Festival	Georgetown	April 26-28, 2024
Crawfish Open	Llano	3rd Friday and Saturday in April
Fair and Rodeo	Liberty Hill	May 18, 2023
Founders Day Ceremony	Fredericksburg	2nd Weekend in May
Crawfish Festival	Fredericksburg	Saturday before Memorial Day
Lakefest Boat Races	Marble Falls	June 10-11, 2023
Watermelon Thump	Luling	Last Full Weekend in June
Pie in the Sky	Kyle	Sept 1-2, 2023
Wine and Music Festival	Georgetown	Last Saturday of September
Deer Season Opening Weekend	All Counties in Burnet Area Office	1st Friday and Saturday of Season
Christmas Nights of FBG Lights	Fredericksburg	Nov 21, 2023
Christmas on Mercer	Dripping Springs	Dec 2, 2023
Lady of Guadalupe Procession	Fredericksburg	Dec 12, 2023
Texas State Graduation Fall	San Marcos	TBD
Texas State Graduation Spring	San Marcos	TBD

All the large and special events listed in the above tables occur annually. Coordinate with the Department and review the city/event website to plan around the future events.

To account for directional traffic volumes, begin and end times of closures may be shifted equally by the Engineer. The closure duration will remain. Added compensation is not allowed.

Submit an emailed request for a lane closure (LCN) to TxDOT. The email will be submitted in the format provided. Receive concurrence prior to implementation. Submit a cancellation of lane closures a minimum of 18 hours prior to implementation. Blanket requests for extended periods are not allowed. Max duration of a request is 2 weeks prior to requiring resubmittal.

Provide 2-hour notice prior to implementation and immediately upon removal of the closure.

For roadways listed in Table 1: Submit the request 96 hours prior to implementation.

For roadways not listed in Table 1: Submit the request a minimum of 48 hours prior to the closure and by the following deadline immediately prior to the closure: 11A on Tuesday or 11A on Friday.

For all roadways: Submit request for traffic detours and full roadway closures 168 hours prior to implementation. Submit request for nighttime work 96 hours to implementation date.

Cancellations of accepted closures (not applicable to full closures or detours) due to weather will not require resubmission in accordance with the above restrictions if the work is completed during the next allowable closure time.

Closures that conflict with adjacent contractor will be prioritized according to critical path work per latest schedule. Conflicting critical path or non-critical work will be approved for first LCN submitted. Denial of a closure due to prioritization or other reasons will not be reason for time suspension, delay, overhead, etc.

Meet with the Engineer prior to lane closures to ensure that sufficient equipment, materials, devices, and workers will be used. Take immediate action to modify current and future traffic control, if at any time the queue becomes greater than 20 minutes.

Consider inclement weather prior to implementing the lane closures. Do not set up traffic control when the pavement is wet.

Place a 28-inch cone, meeting requirements of BC (10) and Ty III barricades, on top of foundations that have protruding studs. This work is subsidiary.

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.

ITEM 600s – LIGHTING, SIGNING, MARKINGS, AND SIGNALS
Meet the requirements of the NEC, Texas MUTCD, TxDOT standards, and TxDOT Standard Specifications. Notify the Engineer if existing elements to remain do not meet code or specification.

Provide all service, equipment and material required to provide a functional item and interface with existing equipment and software.

For signals and illumination contact Robert Bolin (Robert.Bolin@txdot.gov) and Kevin Plumlee (Kevin.Plumlee@txdot.gov).

Use the TxDOT provided form to submit an electrical, illumination, and signal checklist prior to request for signal activation or a punch list.

Provide a 14-day advance email notice to the Engineer to request illumination or traffic signal punch list inspection.

For existing traffic signals, provide a 14-day advance email notice to the Engineer with Contractor signal technician contact information and signal locations prior to working or assuming operations of illumination or traffic signal.

Provide a 60-day advance email notice to the Engineer to request signal timing if timing is not provided in the plans.

Provide a 180-day advance email notice to the Engineer for equipment to be provided by TxDOT.

Provide equipment that requires TxDOT programming, etc. to TxDOT 180 day in advance.

ITEM 610 - ROADWAY ILLUMINATION ASSEMBLIES
Upon removal, contact signal shop to stockpile a maximum of 10 assemblies that meet the current TxDOT standards at the Austin District Headquarters located at 7901 North IH 35, 78753. If signal shop declines receipt of these assemblies, Contractor will be responsible for disposal.

Illumination assemblies used for roadways listed in Table Dark Sky must have a color temperature less than 3000k.

Table Dark Sky

Roadway	Limits
US 290	SH 71 to RR 479 near Harper, Texas
US 281	SH 46 to RM 1431
US 87	All
SH 16	All
SH 71	RM 2244 to US 87
SH 29	RM 1431 to RR 1221 near Menard, Texas

RR 2147	All
RM 1431	US 281 to SH 29
RM 12	RM 32 to RM 3238
RM 2325	RM 12 to RM 165
Gillespie County	All Roads
Blanco County	All Roads
Mason County	All Roads

For each assembly, paint the service, circuit, run and assembly number/letter using 3 in. tall characters and black paint. The marking shall be stacked vertically with the service on top and the assembly number/letter on the bottom. Paint 6 ft. above the roadway surface on the hand access door side of the pole or adjacent to the assembly if mounted to a structure. This work is subsidiary.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder.

Provide 10-amp time delay fuses.

Maintain all new and existing illumination for the duration of the contract. All existing illumination will remain operational until replaced by new illumination or required to be removed due to construction.

ITEM 618 - CONDUIT
Fit PVC and HDPE conduit terminations with bell ends.

Shift the locations of conduit and ground boxes to accommodate field conditions. Install conduit not exceeding 2 feet in any direction from a straight line. Install conduit at a minimum depth of 2 ft. below finished grade. Installation of the conduit by jacking or boring method will be at a depth of at least 1 ft. below subgrade.

Install a high tension, non-metallic pull rope in all empty conduit runs. This work is subsidiary.
Use a coring device, not a hammer drill, when drilling holes through concrete structures.

Structurally mounted junction boxes will be as shown on the plans. When used for traffic signal installations, these boxes will be 12" x 12" x 8". This work is subsidiary.

For underground conduit, smooth wall schedule 40 equivalent HDPE can be substituted for schedule 40 PVC. For SCH 80 bore conduits, a schedule 40 equivalent HDPE carrier pipe of adequate size to carry the proposed conduits can be used as substitut. HDPE must transition to RMC/PVC per ED (11)-14.

When using existing conduit, ensure that all conduits have bushings and cleaned of dirt, mud, grease, and other debris. Re-strap existing or relocated conduit per the specification. This work is subsidiary.
Abandoned underground conduit must have all conductors removed.

ITEM 620 - ELECTRICAL CONDUCTORS
Provide and install 10 amp time delay fuses.

For Flashing Beacons (Item 685) and Pedestal Poles (Item 687), provide single-pole breakaway disconnects. Use Bussman HEBW, Littelfuse LEB, Ferraz-Shawmut FEB, or equal on ungrounded conductors. For all grounded conductors use Bussman HET, Littelfuse LET, Ferraz-Shawmut FEBN, or equal. These breakaway connectors have a white colored marking and a permanently installed solid neutral.

Install a minimum size 8 AWG equipment grounding conductor (EGC) in all conduits including loop detectors and traffic signal cables. Payment and the size of the EGC will be in accordance with standard ED (3)-14 note 12.

Permanently mark "illumination" on the luminaire conductors installed inside a traffic signal pole. Make the marks easily visible from the hand hole.

Identify the conductors as shown on the Electrical Details Standard Sheets when two or more conductors are present in one conduit or enclosure. Use identification tag with two plastic straps. Each tag will indicate circuit number, letter, or other identification as shown on the plans.

ITEM 624 – GROUND BOXES
Aggregate for fill under the box shall be crushed, have a maximum size of 2 in., minimum size of ½ in., and requirements per Item 302 are waived.

ITEM 682 – VEHICLE AND PEDESTRIAN SIGNAL HEADS
Install signal head attachments so the wiring to each passes from the signal pole through the attachment hardware to the signal head. Refer to District Standard for more conductor attachment information. Attachment methods not shown on the district standard are to be approved by the Engineer before work begins. Use UV rated tie wraps.

Traffic signal heads will be aluminum unless otherwise shown on the plans. Back plates will be black aluminum with reflective borders.

Provide louvers, which have five (5) vanes with a black finish on inside surfaces when required. Fasten a hardware cloth screen, securely, with ⅝" or smaller mesh size to the front face of each louver to prevent bird nesting.

Use the four-point mounting system (TY A) for signal heads, except in cases of skewed or vertical heads when (TY B) will be used.

Place the head at the proper angle with the ground. The wording "top" or the "up arrow" indicates the proper fixed alignment within the signal head. Hang the head parallel to the ground once attached and not angled down as with incandescent heads. Ensure the signal head to be level and within tolerances. LED's are designed to direct the indication towards the roadway surface. Variance in head leveling will cause the LED indication to appear dim during slight movement. Ensure each LED head is properly leveled and sight tested before final acceptance.

ITEM 684 – TRAFFIC SIGNAL CABLES
For Type A cables, cables meeting the requirements of IMSA 19-1 can be substituted for IMSA 20-1. For all types of cables, an increase of one size larger wire diameter and thickness can be substituted for plan size without additional cost to the Department. For example, 12 AWG can be substituted for 14 AWG.

For each cable run, coil an extra 2 ft. of cable in each steel pole and 5 ft. in the controller cabinet. Provide a separate multi-conductor signal cable (14 AWG) inside pedestal poles and mast-arm signal poles from the terminal strip to each signal head as shown in the standards.

Provide the traffic signal cable (TY C) (2 Condr) (12AWG) necessary to install the pedestrian detectors placed within this project.

ITEM 685 – ROADSIDE FLASHING BEACON ASSEMBLIES
Provide all components (including signs) for the Roadway Flashing Beacon Assemblies installed within this Item. Among components to provide are the Flasher Cabinet, the Flasher Controller/Solar Control Unit and the LED lamp units. Some Roadway Flashing Beacons could be mounted on a traffic signal mast arm. Refer to work orders to determine if the beacon assemblies are solar or AC powered.

LED lamp units for any flashing beacon assembly installed in this project are to be paid under Items 6026-7003, 6029-7009 & 6029-7010. Signs will be considered subsidiary to this Item. Installation includes all components in the assembly, signs, signal heads, and conductors in the foundation and within 6 in. of the foundation to provide a fully operational assembly.

Test period for the assembly shall be in accordance with item 680.3.1.8.

ITEM 686 - TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL)
Provide and install damping plates on all mast arms 40 ft. or greater. For mast arms less than 40 ft., refer to SMA and DMA vibration notes for guidance. This work is subsidiary.

When luminaires are installed on mast arm poles, provide a separate terminal strip in the signal pole access compartment. The terminal strip will be a 4-circuit Buchanan-Type 104SN, Kulka-Type 985-GP-4 CU, or equivalent. Provide a 10-amp time-delay fuse for traffic signal poles which luminaires are installed. Place the fuse in the fuse block indicated within note #4 found on State standard MA-D-12.

Use pre-formed holes to run wire to signal heads, cameras and signs. Drill other holes in mast arm as needed and directed. Do not drill holes within one foot laterally of other drilled or pre-formed holes unless directed. Drilled holes will be no longer than pre-drilled holes unless directed. Remove any burrs or rough edges, apply galvanizing paint and water-proof.

A hole may be drilled in pole for a pedestrian signal head and a push button station.

ITEM 687 – PEDESTAL POLE ASSEMBLIES
Verify the required pole height prior to ordering material.

ITEM 688 - PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS
Test all loops in accordance with the FHWA traffic detector handbook.
Install vehicle loops prior to placement of roadway surface.

For work within the city limits of Austin, notify COA (512) 974-4099 and TxDOT 21 days prior to loop installation. Install quadrapole layout for presence detectors within city limits of Austin.

For replacement of existing loops, replacement of damaged or missing conduit from the vehicle loop detector to the ground box will be measured and paid by overrun of loop detector bid item.

Removal of damaged ground boxes at end of lead in cable is subsidiary to the new ground box.
Test period for the pedestrian detectors shall be in accordance with item 680.3.1.8.

Pedestrian push buttons will be mounted at 42 in. above the walking surface and have permanent type signs within the detector unit (9 in. x 12 in. sign and push button station on signal poles and 5 in. x 7 in. sign and push button station on pedestrian poles), which explains their purpose and indicates which crosswalk signal is actuated. Provide speech walk message as shown in the plans or per Engineer.

ITEM 6005 – NETWORKING INTELLIGENT TRANSPORTATION SYSTEM (ITS) COMMUNICATION CABLE
Use Category 5e Ethernet Cable for traffic signal installations unless otherwise specified in plans.

ITEM 6006 - VIDEO IMAGING VEHICLE DETECTION SYSTEM (VIVDS)
Install the VIVDS cameras onto the mast arms with the attachment mechanisms provided with the camera system. Install the VIVDS detection zones as directed. Have qualified personnel on site at the time of the signal turn-on to assist with the installation of detection zones. If the camera locations shown in the plans do not allow for proper sight of the proposed detection zones, relocate the cameras as needed and as directed. Place the traffic signal cable (TY A) (3-conductor) (16 AWG) in continuous and separate runs from each VIVDS camera to the controller. This work is subsidiary.

Aim and adjust the cameras, install the cables and VIVDS cards into the controller cabinet and complete any other necessary work to bring the traffic signal into operation.

Provide a Video Processor System (VPS) that can provide up to thirty-two detector outputs to the controller from up to eight camera/video processor units (C/VPU). Route the detector outputs through the Bus Interface Unit (BIU) or approved product, which replaces the functions of the BIU. Field of view for each C/VPU will provide a minimum of thirty-two virtual detection zones for vehicle detection.

Install all cables necessary to provide complete VIVDS operation. Provide a minimum of 10 cables to direct connect the notebook to the VIVDS port.

Phase red and green load switch outputs from up to sixteen phases of a NEMA TS2 Type 2 controller will be provided as inputs to the VPU for use with internal detector extend/delay timing functions. The C/VPU will be able to condition the detector outputs and detection zones based on the state of the associated phase number and color.

The serial communication port on the front of the VPU will be a DB-9 RS-232 connector. Supply a package that will operate with Windows XP and NT and provide the functionality defined in both sections 7.0 and 8.0 in both a direct connect and remote communications mode. The software resident in the VPU and the personal computer will be capable of transmitting and receiving all information needed for zone set up, monitoring vehicle detection by viewing flashing detection zone overlays, and uploading/downloading and interrogating all stored data within the VPU. Remote communications with the VCU will be possible with the addition of external communication devices (modem, Codec, etc.) using the RS-232 and video output ports on the front of the VPU.

The VPU operational software will be stored internally in flash memory and be capable of being updated without the removal and replacement of memory devices.
All surge protection will be din rail mounted.

ITEM 6008 – RADAR VEHICLE DETECTION SYSTEM (RVDS) FOR SIGNALIZED INTERSECTION CONTROL

Provide and install Radar Vehicle Detection System (RVDS) and communication cable as directed by the Engineer. Place the radar detector communication cable in continuous and separate runs from each RVDS to the controller. For each cable terminating at the controller cabinet, provide an extra 5-ft length when installing the cable into the controller. Provide a Serial to Ethernet convertor for each RVDS system. Consider the costs associated with the above work subsidiary to the pertinent Items.

Install the RVDS detection zones as directed. Have qualified personnel on site at the time of the signal turn-on to assist with the installation of detection zones.

Provide a set-up system. Load required set-up software for up to 15 of the District Signal Shop's computers and provide all necessary licensing or provide two setups (or upload/download) devices per contract.

Provide up to eight (8) hours of training. Make arrangements with Austin District Signal Shop Supervisor (512) 997-2243 for training availability.

If the RVDS locations shown in the plans do not allow for proper sight of the proposed detection zones, relocate the devices as needed and as directed. This labor and material cost will not be paid separately, but is subsidiary to this Item.

MISCELLANEOUS SIGNAL ITEMS FORCE ACCOUNT

Furnish and install pole 'T' bases, signal mounting hardware, fittings, connectors, and other miscellaneous items per approval by TxDOT Austin District Signal Shop (512-997-2243) and paid by force account.

Payment for this force account will be per item 9.7 of the Standard Specification Manual with the following exception. Equipment hours will not be included for payment unless a piece of equipment is needed beyond what is already mobilized for the preventative maintenance item. Requests for payment of equipment must be approved in writing by the engineer.

CONTROL : 6468-07-001
PROJECT : RMC - 646807001
HIGHWAY : IH0035
COUNTY : TRAVIS

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION SEPTEMBER 1, 2024. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 500 MOBILIZATION
ITEM 620 ELECTRICAL CONDUCTORS <610><628>
ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS
ITEM 684 TRAFFIC SIGNAL CABLES <625><680><690>

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS. ALL FEDERAL-AID PROJECTS (REV. 5-12) (FORM FHWA 1273)
WAGE RATES
DISCLOSURE OF LOBBYING ACTIVITIES
SPECIAL PROVISION "NONDISCRIMINATION" (000---001)
SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT" (000---002)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFIC" (000---003)
SPECIAL PROVISION "ONTHEJOB TRAINING PROGRAM" (000---004)
SPECIAL PROVISION "CARGO PREFERENCE ACT REQUIREMENTS IN FEDERAL AID CONTRA" (000---007)
SPECIAL PROVISION "NOTICE OF CONTRACTOR PERFORMANCE EVALUATIONS" (000---016)
SPECIAL PROVISION "CERTIFICATE OF INTERESTED PARTIES (FORM 1295)" (000---017)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000---018)
SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO

ENSURE EQUAL EMPLOYEMENT OPPORTUNITY (EXECUTIVE O
RDER 11" (000---020)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERALAID"
(000---022)
SPECIAL PROVISION "ACTIVATION OF FEDERAL CONTRACT PROVISIONS"
(000---023)
SPECIAL PROVISION TO ITEM 4 (004---002)
SPECIAL PROVISION TO ITEM 6 (006---001)
SPECIAL PROVISION TO ITEM 8 (008---001)

SPECIAL SPECIFICATIONS:

ITEM 6005 NETWORKING INTELLIGENT TRANSPORTATION SYSTEM (ITS)
COMMUNICATION CABLE
ITEM 6006 VIDEO IMAGING VEHICLE DETECTION SYSTEM
ITEM 6008 RADAR VEHICLE DETECTION SYSTEM FOR SIGNALIZED
INTERSECTION CONTROL
ITEM 6026 PREVENTATIVE MAINTENANCE OF SOLAR POWERED ROADSIDE
FLASHING BEACON ASSEMBLIES
ITEM 6029 PREVENTIVE MAINTENANCE OF TRAFFIC SIGNALS <618><620><624>
<625><628><636><682><684><685><686><687><688>

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH

PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER
PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-
LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL
PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-
CATIONS FOR THIS PROJECT.

CHILD SUPPORT STATEMENT

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

CONFLICT OF INTEREST CERTIFICATION

Pursuant to Texas Government Code Section 2261.252(b), the Department is prohibited from entering into contracts in which Department officers and employees have a financial interest.

By signing the Contract, the Contractor certifies that it is not prohibited from entering into a Contract with the Department as a result of a financial interest as defined under Texas Government Code Section 2261.252(b), and that it will exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict of interest with the Department.

The Contractor also certifies that none of the following individuals, nor any of their family members within the second degree of affinity or consanguinity, owns 1% or more interest or has a financial interest as defined under Texas Government Code Section 2261.252(b) in the Contractor:

- Any member of the Texas Transportation Commission; and
- The Department's Executive Director, General Counsel, Chief of Procurement and Field Support Operations, Director of Procurement, and Director of Contract Services.

Violation of this certification may result in action by the Department.

E-VERIFY CERTIFICATION

Pursuant to Texas Transportation Code §223.051, all TxDOT contracts for construction, maintenance, or improvement of a highway must include a provision requiring Contractors and subcontractors to use the U.S. Department of Homeland Security's E-Verify system to determine employment eligibility. By signing the contract, the Contractor certifies that prior to the award of the Contract:

- the Contractor has registered with and will, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of the Contract to determine the eligibility of all persons hired to perform duties within Texas during the term of the agreement; and
- the Contractor will require that all subcontractors also register with and, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of the subcontract to determine the eligibility of all persons hired to perform duties within Texas during the term of the agreement.

Violation of this requirement constitutes a material breach of the Contract, subjects a subcontractor to removal from the Contract, and subjects the Contractor or subcontractors to possible sanctions in accordance with Title 43, Texas Administrative Code, Chapter 10, Subchapter F, "Sanctions and Suspension for Ethical Violations by Entities Doing Business with the Department."

Certification Regarding Disclosure of Public Information

Pursuant to Subchapter J, Chapter 552, Texas Government Code, contractors executing a contract with a governmental body that results in the expenditure of at least $1 million in public funds must:

1) preserve all contracting information* as provided by the records retention requirements applicable to Texas Department of Transportation (TxDOT) for the duration of the contract,
2) on request of TxDOT, promptly provide any contracting information related to the contract that is in the custody or possession of the entity, and
3) on completion of the contract, either:
    A. provide, at no cost to TxDOT, all contracting information related to the contract that is in the custody or possession of the entity, or
    B. preserve the contracting information related to the contract as provided by the records retention requirements applicable to TxDOT

The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract, and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

By entering into Contract, the Contractor agrees to:

- provide, or make available, to TxDOT and any authorized governmental investigating or auditing agency all records, including electronic and payment records related to the contract, for the same period provided by the records retention schedule applicable to TxDOT, and
- ensure that all subcontracts include a clause requiring the same.

* As defined in Government Code §552.003, "Contracting information" means the following information maintained by a governmental body or sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor:

1) information in a voucher or contract relating to the receipt or expenditure of public funds by a governmental body;
2) solicitation or bid documents relating to a contract with a governmental body;
3) communications sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor during the solicitation, evaluation, or negotiation of a contract;
4) documents, including bid tabulations, showing the criteria by which a governmental body evaluates each vendor, contractor, potential vendor, or potential contractor responding to a solicitation and, if applicable, an explanation of why the vendor or contractor was selected; and
5) communications and other information sent between a governmental body and a vendor or contractor related to the performance of a final contract with the governmental body or work performed on behalf of the governmental body.

CERTIFICATION TO NOT BOYCOTT ISRAEL

Pursuant to Texas Government Code §2271.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott Israel, as defined in Government Code §808.001, and will not boycott Israel during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this contract. “Boycott” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT BOYCOTT ENERGY COMPANIES

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott energy companies, as defined in Government Code §809.001, and will not boycott energy companies during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott energy companies and will not boycott energy companies during the term of this contract. “Boycott” means taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (2) does business with a company described by (1).

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT DISCRIMINATE AGAINST FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor:

1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as defined in Government Code §2274.001, and
2) will not discriminate against a firearm entity or firearm trade association during the term of the contract.

This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not discriminate against a firearm entity or firearm trade association as described and will not do so during the term of this contract. "Discriminate against a firearm entity or firearm trade association" means, with respect to the entity or association, to: (1) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (2) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (3) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" does not include: (1) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; (2) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency, or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity 's or association's status as a firearm entity or firearm trade association.

Violation of this certification may result in action by the Department.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS EQUIPMENT OR SERVICES

The Federal Register Notice issued the Final Rule and states that the amendment to 2 CFR 200.216 is effective on August 13, 2020. The new 2 CFR 200.471 regulation provides clarity that the telecommunications and video surveillance costs associated with 2 CFR 200.216 are unallowable for services and equipment from these specific providers. OMB's Federal Register Notice includes the new 2 CFR 200.216 and 2 CFR 200.471 regulations.

https://www.federalregister.gov/documents/2020/08/13/2020-17468/guidance-for-grants-and-agreements

Per the Federal Law referenced above, use of services, systems, or services or systems that contain components produced by any of the following manufacturers is strictly prohibited for use on this project. Therefore, for any telecommunications, CCTV, or video surveillance equipment, services or systems cannot be manufactured by, or have components manufactured by:

- Huawei Technologies Company,
- ZTE Corporation (any subsidiary and affiliate of such entities),
- Hyatera Communications Corporation,
- Hangzhou Hikvision Digital Technology Company,
- Dahua Technology Company (any subsidiary and affiliate of such entities).

Violation of this prohibition will require replacement of the equipment at the contractor's expense.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

The wage rates listed herein are those predetermined by the Secretary of Labor and State Statue and listed in the United States Department of Labor's (USDOL) General Decisions dated 01-05-2024 and are the minimum wages to be paid accordingly for each specified classification. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed herein and not in the USDOL's general decision, must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request and be submitted for approval. IMPORTANT NOTICE FOR STATE PROJECTS: only the controlling wage rate zone applies to the contract. Effective 01-05-2024.

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX02 *(TX20240002)	ZONE TX03 *(TX20240003)	ZONE TX04 *(TX20240004)	ZONE TX05 *(TX20240005)	ZONE TX06 *(TX20240006)	ZONE TX07 *(TX20240007)	ZONE TX08 *(TX20240008)	ZONE TX24 *(TX20240024)	ZONE TX25 *(TX20240025)	ZONE TX27 *(TX20240027)	ZONE TX28 *(TX20240028)	ZONE TX29 *(TX20240029)	ZONE TX30 *(TX20240030)	ZONE TX37 *(TX20240037)	ZONE TX38 *(TX20240038)	ZONE TX42 *(TX20240042)
1428	Agricultural Tractor Operator						$12.69					$12.35			$11.75		
1300	Asphalt Distributor Operator	$14.87	$13.48	$13.88	$15.72	$15.58	$15.55	$15.72	$13.28	$15.32	$15.62	$14.36	$14.25	$14.03	$13.75	$14.06	$14.40
1303	Asphalt Paving Machine Operator	$13.40	$12.25	$12.35	$13.87	$14.05	$14.36	$14.20	$13.26	$13.99	$14.68	$12.92	$13.44	$12.53	$14.00	$14.32	$12.99
1106	Asphalt Raker	$12.28	$10.61	$12.02	$14.21	$11.65	$12.12	$11.64	$11.44	$12.69	$12.05	$11.34	$11.67	$11.40	$12.59	$12.36	$11.78
1112	Batching Plant Operator, Asphalt																
1115	Batching Plant Operator, Concrete																
1214	Blaster																
1615	Boom Truck Operator						$18.36										
1444	Boring Machine Operator																
1305	Broom or Sweeper Operator	$11.21	$10.33	$10.08	$11.99		$11.04	$11.62		$11.74	$11.41	$10.30		$10.23	$10.60	$12.68	$11.05
1144	Communications Cable Installer																
1124	Concrete Finisher, Paving and Structures	$13.55	$12.46	$13.16	$12.85	$12.64	$12.56	$12.77	$12.44	$14.12	$13.04	$13.38	$12.64	$12.80	$12.79	$12.98	$13.32
1318	Concrete Pavement Finishing Machine Operator				$16.05		$15.48			$16.05		$19.31				$13.07	
1315	Concrete Paving, Curing, Float, Texturing Machine Operator											$16.34				$11.71	
1333	Concrete Saw Operator				$14.67					$14.48	$17.33					$13.99	
1399	Concrete/Gunite Pump Operator																
1344	Crane Operator, Hydraulic 80 tons or less				$18.22		$18.36			$18.12	$18.04	$20.21			$18.63	$13.86	
1345	Crane Operator, Hydraulic Over 80 Tons																
1342	Crane Operator, Lattice Boom 80 Tons or Less	$16.82	$14.39	$13.85	$17.27		$15.87			$17.27		$14.67			$16.42	$14.97	$13.87
1343	Crane Operator, Lattice Boom Over 80 Tons				$20.52		$19.38			$20.52		$17.49			$25.13	$15.80	
1306	Crawler Tractor Operator	$13.96	$16.63	$13.62	$14.26		$15.67			$14.07	$13.15	$13.38			$14.60	$13.68	$13.50
1351	Crusher or Screen Plant Operator																
1446	Directional Drilling Locator						$11.67										
1445	Directional Drilling Operator				$20.32		$17.24										
1139	Electrician	$20.96		$19.87	$19.80		$26.35		$20.27	$19.80		$20.92				$27.11	$19.87
1347	Excavator Operator, 50,000 pounds or less	$13.46	$12.56	$13.67	$17.19		$12.88	$14.38	$13.49	$17.19		$13.88			$14.09	$12.71	$14.42
1348	Excavator Operator, Over 50,000 pounds		$15.23	$13.52	$17.04		$17.71			$16.99	$18.80	$16.22				$14.53	$13.52
1150	Flagger	$9.30	$9.10	$8.50	$10.28	$8.81	$9.45	$8.70		$10.06	$9.71	$9.03	$8.81	$9.08	$9.90	$10.33	$8.10
1151	Form Builder/Setter, Structures	$13.52	$12.30	$13.38	$12.91	$12.71	$12.87	$12.38	$12.26	$13.84	$12.98	$13.07	$13.61	$12.82	$14.73	$12.23	$12.25
1160	Form Setter, Paving & Curb	$12.36	$12.16	$13.93	$11.83	$10.71	$12.94			$13.16	$12.54	$11.33	$10.69		$13.33	$12.34	$13.93
1360	Foundation Drill Operator, Crawler Mounted				$17.99					$17.99						$17.43	
1363	Foundation Drill Operator, Truck Mounted		$16.86	$22.05	$21.51		$16.93			$21.07	$20.20	$20.76		$17.54	$21.39	$15.89	$22.05
1369	Front End Loader Operator, 3 CY or Less	$12.28	$13.49	$13.40	$13.85		$13.04	$13.15	$13.29	$13.69	$12.64	$12.89			$13.51	$13.32	$12.17
1372	Front End Loader Operator, Over 3 CY	$12.77	$13.69	$12.33	$14.96		$13.21	$12.86	$13.57	$14.72	$13.75	$12.32			$13.19	$13.17	$13.02
1329	Joint Sealer																
1172	Laborer, Common	$10.30	$9.86	$10.08	$10.51	$10.71	$10.50	$10.24	$10.58	$10.72	$10.45	$10.30	$10.25	$10.03	$10.54	$11.02	$10.15
1175	Laborer, Utility	$11.80	$11.53	$12.70	$12.17	$11.81	$12.27	$12.11	$11.33	$12.32	$11.80	$11.53	$11.23	$11.50	$11.95	$11.73	$12.37
1346	Loader/Backhoe Operator	$14.18	$12.77	$12.97	$15.68		$14.12			$15.18	$13.58	$12.87		$13.21	$14.13	$14.29	$12.90
1187	Mechanic	$20.14	$15.47	$17.47	$17.74	$17.00	$17.10			$17.68	$18.94	$18.58	$17.00	$16.61	$18.46	$16.96	$17.47

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX02 *(TX20240002)	ZONE TX03 *(TX20240003)	ZONE TX04 *(TX20240004)	ZONE TX05 *(TX20240005)	ZONE TX06 *(TX20240006)	ZONE TX07 *(TX20240007)	ZONE TX08 *(TX20240008)	ZONE TX24 *(TX20240024)	ZONE TX25 *(TX20240025)	ZONE TX27 *(TX20240027)	ZONE TX28 *(TX20240028)	ZONE TX29 *(TX20240029)	ZONE TX30 *(TX20240030)	ZONE TX37 *(TX20240037)	ZONE TX38 *(TX20240038)	ZONE TX42 *(TX20240042)
1380	Milling Machine Operator	$15.54	$14.64	$12.22	$14.29		$14.18			$14.32	$14.35	$12.86			$14.75	$13.53	$12.80
1390	Motor Grader Operator, Fine Grade	$17.49	$16.52	$16.88	$17.12	$18.37	$18.51	$16.69	$16.13	$17.19	$18.35	$17.07	$17.74	$17.47	$17.08	$15.69	$20.01
1393	Motor Grader Operator, Rough	$16.15	$14.62	$15.83	$16.20	$17.07	$14.63	$18.50		$16.02	$16.44	$15.12	$16.85	$14.47	$17.39	$14.23	$15.53
1413	Off Road Hauler			$10.08	$12.26		$11.88			$12.25		$12.23			$13.00	$14.60	
1196	Painter, Structures					$21.29	$18.34						$21.29			$18.62	
1396	Pavement Marking Machine Operator	$16.42		$13.10	$13.55		$19.17	$12.01		$13.63	$14.60	$13.17		$16.65	$10.54	$11.18	$13.10
1443	Percussion or Rotary Drill Operator																
1202	Piledriver															$14.95	
1205	Pipelayer		$11.87	$14.64	$13.17	$11.17	$12.79		$11.37	$13.24	$12.66	$13.24	$11.17	$11.67		$12.12	$14.64
1384	Reclaimer/Pulverizer Operator	$12.85			$11.90		$12.88			$11.01		$10.46					
1500	Reinforcing Steel Worker	$13.50	$14.07	$17.53	$16.17		$14.00			$16.18	$12.74	$15.83		$17.10		$15.15	$17.72
1402	Roller Operator, Asphalt	$10.95		$11.96	$13.29		$12.78	$11.61		$13.08	$12.36	$11.68			$11.71	$11.95	$11.50
1405	Roller Operator, Other	$10.36		$10.44	$11.82		$10.50	$11.64		$11.51	$10.59	$10.30		$12.04	$12.85	$11.57	$10.66
1411	Scraper Operator	$10.61	$11.07	$10.85	$12.88		$12.27		$11.12	$12.96	$11.88	$12.43		$11.22	$13.95	$13.47	$10.89
1417	Self-Propelled Hammer Operator																
1194	Servicer	$13.98	$12.34	$14.11	$14.74		$14.51	$15.56	$13.44	$14.58	$14.31	$13.83		$12.43	$13.72	$13.97	$14.11
1513	Sign Erector																
1708	Slurry Seal or Micro-Surfacing Machine Operator																
1341	Small Slipform Machine Operator									$15.96							
1515	Spreader Box Operator	$12.60		$13.12	$14.71		$14.04			$14.73	$13.84	$13.68		$13.45	$11.83	$13.58	$14.05
1705	Structural Steel Welder															$12.85	
1509	Structural Steel Worker						$19.29									$14.39	
1339	Subgrade Trimmer																
1143	Telecommunication Technician																
1145	Traffic Signal/Light Pole Worker						$16.00										
1440	Trenching Machine Operator, Heavy						$18.48										
1437	Trenching Machine Operator, Light																
1609	Truck Driver Lowboy-Float	$14.46	$13.63	$13.41	$15.00	$15.93	$15.66			$16.24	$16.39	$14.30	$16.62	$15.63	$14.28	$16.03	$13.41
1612	Truck Driver Transit-Mix				$14.14					$14.14							
1600	Truck Driver, Single Axle	$12.74	$10.82	$10.75	$13.04	$11.61	$11.79	$13.53	$13.16	$12.31	$13.40	$10.30	$11.61		$11.97	$11.46	$10.75
1606	Truck Driver, Single or Tandem Axle Dump Truck	$11.33	$14.53	$11.95	$12.95		$11.68		$14.06	$12.62	$11.45	$12.28		$13.08	$11.68	$11.48	$11.10
1607	Truck Driver, Tandem Axle Tractor withSemi Trailer	$12.49	$12.12	$12.50	$13.42		$12.81	$13.16		$12.86	$16.22	$12.50			$13.80	$12.27	$12.50
1441	Tunneling Machine Operator, Heavy																
1442	Tunneling Machine Operator, Light																
1706	Welder		$14.02		$14.86		$15.97		$13.74	$14.84					$13.78		
1520	Work Zone Barricade Servicer	$10.30	$12.88	$11.46	$11.70	$11.57	$11.85	$10.77		$11.68	$12.20	$11.22	$11.51	$12.96	$10.54	$11.67	$11.76

Notes:

*Represents the USDOL wage decision.

Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hours per week.

For reference, the titles and descriptions for the classifications listed here are detailed further in the AGC of Texas' *Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas* posted on the AGC's Web site for any contractor.

TEXAS COUNTIES IDENTIFIED BY
WAGE RATE ZONES: 2, 3, 4, 5, 6, 7, 8, 24, 25, 27, 28, 29, 30, 37, 38, 42

County Name	Zone	County Name	Zone	County Name	Zone	County Name	Zone
Anderson	28	Donley	37	Karnes	27	Reagan	37
Andrews	37	Duval	30	Kaufman	25	Real	37
Angelina	28	Eastland	37	Kendall	7	Red River	28
Aransas	29	Ector	2	Kenedy	30	Reeves	8
Archer	25	Edwards	8	Kent	37	Refugio	27
Armstrong	2	El Paso	24	Kerr	27	Roberts	37
Atascosa	7	Ellis	25	Kimble	37	Robertson	7
Austin	38	Erath	28	King	37	Rockwall	25
Bailey	37	Falls	28	Kinney	8	Runnels	37
Bandera	7	Fannin	28	Kleberg	27	Rusk	4
Bastrop	7	Fayette	27	Knox	37	Sabine	28
Baylor	37	Fisher	37	Lamar	28	San Augustine	28
Bee	27	Floyd	37	Lamb	37	San Jacinto	38
Bell	7	Foard	37	Lampasas	7	San Patricio	29
Bexar	7	Fort Bend	38	LaSalle	30	San Saba	37
Blanco	27	Franklin	28	Lavaca	27	Schleicher	37
Borden	37	Freestone	28	Lee	27	Scurry	37
Bosque	28	Frio	27	Leon	28	Shackelford	37
Bowie	4	Gaines	37	Liberty	38	Shelby	28
Brazoria	38	Galveston	38	Limestone	28	Sherman	37
Brazos	7	Garza	37	Lipscomb	37	Smith	4
Brewster	8	Gillespie	27	Live Oak	27	Somervell	28
Briscoe	37	Glasscock	37	Llano	27	Starr	30
Brooks	30	Goliad	29	Loving	37	Stephens	37
Brown	37	Gonzales	27	Lubbock	2	Sterling	37
Burleson	7	Gray	37	Lynn	37	Stonewall	37
Burnet	27	Grayson	25	Madison	28	Sutton	8
Caldwell	7	Gregg	4	Marion	28	Swisher	37
Calhoun	29	Grimes	28	Martin	37	Tarrant	25
Callahan	25	Guadalupe	7	Mason	27	Taylor	2
Cameron	3	Hale	37	Matagorda	27	Terrell	8
Camp	28	Hall	37	Maverick	30	Terry	37
Carson	2	Hamilton	28	McCulloch	37	Throckmorton	37
Cass	28	Hansford	37	McLennan	7	Titus	28
Castro	37	Hardeman	37	McMullen	30	Tom Green	2
Chambers	38	Hardin	38	Medina	7	Travis	7
Cherokee	28	Harris	38	Menard	37	Trinity	28
Childress	37	Harrison	42	Midland	2	Tyler	28
Clay	25	Hartley	37	Milam	28	Upshur	4
Cochran	37	Haskell	37	Mills	37	Upton	37
Coke	37	Hays	7	Mitchell	37	Uvalde	30
Coleman	37	Hemphill	37	Montague	37	Val Verde	8
Collin	25	Henderson	28	Montgomery	38	Van Zandt	28
Collingsworth	37	Hidalgo	3	Moore	37	Victoria	6
Colorado	27	Hill	28	Morris	28	Walker	28
Comal	7	Hockley	37	Motley	37	Waller	38
Comanche	37	Hood	28	Nacogdoches	28	Ward	37
Concho	37	Hopkins	28	Navarro	28	Washington	28
Cooke	37	Houston	28	Newton	28	Webb	3
Coryell	7	Howard	37	Nolan	37	Wharton	27
Cottle	37	Hudspeth	8	Nueces	29	Wheeler	37
Crane	37	Hunt	25	Ochiltree	37	Wichita	5
Crockett	8	Hutchinson	37	Oldham	37	Wilbarger	37
Crosby	2	Irion	2	Orange	38	Willacy	30
Culberson	8	Jack	28	Palo Pinto	28	Williamson	7
Dallam	37	Jackson	27	Panola	28	Wilson	7
Dallas	25	Jasper	28	Parker	25	Winkler	37
Dawson	37	Jeff Davis	8	Parmer	37	Wise	25
Deaf Smith	37	Jefferson	38	Pecos	8	Wood	28
Delta	25	Jim Hogg	30	Polk	28	Yoakum	37
Denton	25	Jim Wells	27	Potter	2	Young	37
DeWitt	27	Johnson	25	Presidio	8	Zapata	30
Dickens	37	Jones	25	Rains	28	Zavala	30
Dimmit	30			Randall	2		

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Special Provision to Item 000
Nondiscrimination

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws, including Title VI of the Civil Rights Act of 1964, as amended (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

The Texas Department of Transportation, as a recipient of federal financial assistance, and under Title VI and related statutes, ensures that no person will on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment in accordance with 42 USC 2000d-3), color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any Department programs or activities.

2. DEFINITION OF TERMS

Where the term "Contractor" appears in the following six nondiscrimination clauses, the term "Contractor" is understood to include all parties to Contracts or agreements with the Department.

3. NONDISCRIMINATION PROVISIONS

During the performance of this Contract, the Contractor agrees as follows.

3.1. **Compliance with Regulations**. The Contractor must comply with the Regulations pertinent to nondiscrimination in federally assisted programs of the United States Department of Transportation 49 CFR 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

3.2. **Nondiscrimination**. The Contractor, regarding the work performed during the Contract, must not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor must not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, the Contractor must notify each potential subcontractor or supplier of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

3.4. **Information and Reports**. The Contractor must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Recipient or the Department to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor must so certify to the Recipient, or the Department as appropriate, and must set forth what efforts it has made to obtain the information.

3.5. **Sanctions for Noncompliance**. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Recipient must impose such Contract sanctions as it or the Department may

determine to be appropriate, including, but not limited to actions defined in Article 7.1., “Ethics,” or Article 5.1., “Authority of Engineer.”

3.6. **Incorporation of Provisions**. The Contractor must include the provisions of Sections 3.1–3.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor must take such action with respect to any subcontract or procurement as the Recipient or the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision to Item 000
Certification of Nondiscrimination in Employment

1. GENERAL

By signing this proposal, the Bidder certifies that it has participated in a previous Contract or subcontract subject to the equal opportunity clause, as required by Executive Order (EO) 10925, 11114, or 11246, or if it has not participated in a previous Contract of this type, or if it has had previous Contracts or subcontracts and has not filed, it will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity (EEO), all reports due under the applicable filing requirements.

Note—The above certification is required by the EEO Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by Bidders and proposed subcontractors only in connection with Contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only Contracts or subcontracts of $10,000 or less are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the EOs or their implementing regulations.

Proposed prime Contractors and subcontractors that have participated in a previous Contract or subcontract subject to the EO and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of Contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by FHWA or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Special Provision to Item 000

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. GENERAL

1.1. As used in these Specifications:

- "Covered area" means the geographical area described in the solicitation from which this Contract resulted;
- "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor (DOL), or any person to whom the Director delegates authority;
- "Employer identification number" means the federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941; and
- "Minority" includes:
  - Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
  - Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
  - Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
  - American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

1.2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it will physically include in each subcontract of more than $10,000 the provisions of these Specifications and the Notice that contains the applicable goals for minority and female participation that are set forth in the solicitations from which this Contract resulted.

1.3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by DOL in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) will be in conformance with that Plan for those trades that have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the equal employment opportunity (EEO) clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

1.4. The Contractor will implement the specific affirmative action standards provided in Sections 1.7.1.– Section 1.7.16. of this Specification. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction Contractors performing Contracts in geographical areas where they do not have a federal or federally assisted construction Contract will apply the minority and female goals established for the geographical area where the Contract is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any OFCCP office

or any federal procurement contracting officer. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

1.5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women will excuse the Contractor's obligations under these Specifications, Executive Order (EO) 11246, or the regulations promulgated pursuant thereto.

1.6. For the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by DOL.

1.7. The Contractor will take specific affirmative actions to ensure EEO. The evaluation of the Contractor's compliance with these Specifications will be based on its effort to achieve maximum results from its actions. The Contractor will document these efforts fully and will implement affirmative action steps at least as extensive as the following.

1.7.1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor will specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

1.7.2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

1.7.3. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, recruitment source, or community organization, and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred to the Contractor by the union or, if referred, not employed by the Contractor, this will be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

1.7.4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement have not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

1.7.5. Develop on-the-job training opportunities or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by DOL. The Contractor will provide notice of these programs to the sources compiled under Section 1.7.2.

1.7.6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in publications such as the company newspaper and annual report; by specifically reviewing the policy with all management personnel and with all minority and female employees at least once annually; and by posting it on bulletin boards accessible to all employees at each location where construction work is performed.

1.7.7. Review, at least annually, the company's EEO policy and affirmative action obligations under these Specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items with onsite supervisory personnel such as

superintendents and general foremen, before the initiation of construction work at any jobsite. A written record must be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

1.7.8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.

1.7.9. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations; to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 mo. before the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor will send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

1.7.10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after-school, summer, and vacation employment to minority and female youth both onsite and in other areas of a Contractor's workforce.

1.7.11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR 60-3.

1.7.12. At least annually, conduct an inventory and evaluation at least of all minority and female personnel for promotional opportunities, and encourage these employees to seek or to prepare for such opportunities through appropriate training or other means.

1.7.13. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and the Contractor's obligations under these Specifications are being carried out.

1.7.14. Ensure that all facilities and company activities are non-segregated, except that separate or single-user toilet and necessary changing facilities will be provided to assure privacy between the sexes.

1.7.15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

1.7.16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

1.8. Contractors are encouraged to participate in voluntary associations that assist in fulfilling one or more of their affirmative action obligations (Sections 1.7.1.–1.7.16. of this Specifications). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under Sections 1.7.1–1.7.16. of this Specification, provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation will not be a defense for the Contractor's noncompliance.

1.9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide EEO and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the EO if a particular group is employed in a substantially disparate manner (e.g., even though the Contractor

has achieved its goals for women generally, the Contractor may be in violation of the EO if a specific minority group of women is underused).

1.10. The Contractor must not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

1.11. The Contractor will not enter into any subcontract with any person or firm debarred from Government Contracts pursuant to EO 11246.

1.12. The Contractor will carry out such sanctions and penalties for violation of these Specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to EO 11246, as amended, and its implementing regulations, by OFCCP. Any Contractor who fails to carry out such sanctions and penalties will be in violation of these Specifications and EO 11246, as amended.

1.13. The Contractor, in fulfilling its obligations under these Specifications, will implement specific affirmative action steps, at least as extensive as those standards prescribed in Section 1.7 of this Specification, to achieve maximum results from its efforts to ensure EEO. If the Contractor fails to comply with the requirements of the EO, the implementing regulations, or these Specifications, the Director will proceed in accordance with 41 CFR 60-4.8.

1.14. The Contractor will designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records must at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, Social Security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records must be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors will not be required to maintain separate records.

1.15. Nothing herein provided will be construed as a limitation on the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

1.16. In addition to the reporting requirements set forth elsewhere in this Contract, the Contractor and the subcontractors holding subcontracts, not including material suppliers, of $10,000 or more, will submit for every month of July during which work is performed, employment data as contained under Form PR 1391 (Appendix C to 23 CFR 230), and in conformance with the included instructions.

Special Provision to Item 000
On-the-Job Training Program

1. DESCRIPTION

The primary objective of this Special Provision is the training and advancement of minorities, women, and economically disadvantaged persons toward journeyworker status. Accordingly, make every effort to enroll minority, women, and economically disadvantaged persons to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended to, and will not be used to, discriminate against any applicant for training, whether he or she is a member of a minority group or not.

2. TRAINEE ASSIGNMENT

Training assignments are based on the past volume of State-let highway construction Contracts awarded with the Department. Contractors meeting the selection criteria will be notified of their training assignment at the beginning of the reporting year by the Department's Civil Rights Division.

3. PROGRAM REQUIREMENTS

Fulfill all the requirements of the On-the-Job Training Program, including the maintenance of records and submittal of periodic reports documenting program performance. Trainees will be paid at least 60% of the appropriate minimum journeyworker's rate specified in the Contract for the first half of the training period, 75% for the third quarter, and 90% for the last quarter, respectively.

4. REIMBURSEMENT

If requested, Contractors may be reimbursed $0.80 per training hour at no additional cost to the Department. Training may occur on this project, all other Department Contracts, or locally administered federal aid projects with concurrence of the local government entity. However, reimbursement for training is not available on projects to the extent that such projects do not contain federal funds.

5. COMPLIANCE

The Contractor will have fulfilled the contractual responsibilities by having provided acceptable training to the number of trainees specified in their goal assignment. Noncompliance may be cause for corrective and appropriate measures in accordance with Article 8.7., "Default of Contract," which may be used to comply with the sanctions for noncompliance pursuant to 23 CFR 230.

Special Provision 000

Cargo Preference Act Requirements in Federal Aid Contracts

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with the U.S. Department of Transportation's Cargo Preference Act requirements, 46 CFR 381, "Use of United States-Flag Vessels."

This requirement applies to material or equipment that is acquired specifically for a federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA-funded Contract.

When oceanic shipments are necessary for materials or equipment acquired for a specific federal-aid construction project, the Contractor agrees to:

- use privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels;

- furnish a legible copy of a rated, onboard commercial ocean bill of lading in English for each shipment of cargo described in Paragraph (b)(1) of 46 CFR 381, Section 7, "Federal Grant, Guaranty, Loan and Advance of Funds Agreements," within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, to both the Engineer (through the prime Contractor in the case of subcontractor bills of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590; and

- insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

Special Provision 000
Important Notice to Contractors

1. GENERAL

In accordance with Texas Transportation Code §223.012, the Engineer will evaluate Contractor performance based on quality, safety, and timeliness of the project.

2. DEFINISIONS

2.1. **Project Recovery Plan (PRP)**. A formal, enforceable plan developed by the Contractor, in consultation with the District, that documents the cause of noted quality, safety, and timeliness issues and specifies how the Contractor proposes to correct project-specific performance deficiencies.

In accordance with 43 TAC §9.23, the District will request a PRP if the Contractor's performance on a project is below the Department's acceptable standards and will monitor the Contractor's compliance with the established plan.

2.2. **Corrective Action Plan (CAP)**. A formal, enforceable plan developed by the Contractor, and proposed for adoption by the Construction Division or Maintenance Division, that documents the cause of noted quality, safety, and timeliness issues and specifies how the Contractor proposes to correct statewide performance deficiencies.

3. CONTRACTOR EVALUATIONS

In accordance with 43 TAC §9.23, the Engineer will schedule evaluations at the following intervals, at minimum:

- interim evaluations at or within 30 days after the anniversary of the Notice to Proceed, for Contracts extending beyond 1 yr. and
- final evaluation, upon project closeout.

In case of a takeover agreement, neither the Surety nor its performing Contractor will be evaluated.

In addition to regularly scheduled evaluations, the Engineer may schedule an interim evaluation at any time to formally communicate issues with quality, safety, or timeliness. Upon request, work with the Engineer to develop a PRP to document expectations for correcting deficiencies.

Comply with the PRP as directed. Failure to comply with the PRP may result in additional remedial actions available to the Engineer under Item 5, "Control of the Work." Failure to meet a PRP to the Engineer's satisfaction may result in immediate referral to the Performance Review Committee for consideration of further action against the Contractor.

The Engineer will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards or comply with a PRP, including consideration of sufficient time.

Follow the escalation ladder if there is a disagreement regarding an evaluation or disposition of a PRP. The Contractor may submit additional documentation pertaining to the dispute. The District Engineer's decision on a Contractor's evaluation score and recommendation of action required in a PRP or follow-up for noncompliance is final.

4. DIVISION OVERSIGHT

Upon request of the Construction Division or Maintenance Division, develop and submit for Division approval a proposed CAP to document expectations for correcting deficiencies in the performance of projects statewide.

Comply with the CAP as directed. The CAP may be modified at any time up to completion or resolution after written approval of the premise of change from the Division. Failure to meet an adopted or revised adopted CAP to the Division's satisfaction within 120 days will result in immediate referral to the Performance Review Committee for consideration of further action against the Contractor.

The Division will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards or comply with a CAP, including consideration of sufficient time and associated costs as appropriate.

5. PERFORMANCE REVIEW COMMITTEE

The Performance Review Committee, in accordance with 43 TAC §9.24, will review at minimum all final evaluations, history of compliance with PRPs, any adopted CAPs including agreed modifications, any information about events outside a Contractor's control contributing to the Contractor's performance, and any documentation submitted by the Contractor and may recommend one or more of the following actions:

- take no action,
- reduce the Contractor's bidding capacity,
- prohibit the Contractor from bidding on one or more projects,
- immediately suspend the Contractor from bidding for a specified period of time, by reducing the Contractor's bidding capacity to zero, or
- prohibit the Contractor from being awarded a Contract on which they are the apparent low bidder.

The Deputy Executive Director will determine any further action against the Contractor.

6. APPEALS PROCESS

In accordance with 43 TAC §9.25, the Contractor may appeal remedial actions determined by the Deputy Executive Director.

Special Provision 000
Certificate of Interested Parties (Form 1295)

Submit Form 1295, "Certificate of Interested Parties," in the following instances:

- at Contract execution for Contracts awarded by the Commission,
- at Contract execution for Contracts awarded by the District Engineer or Chief Engineer with an award amount of $1 million or more,
- at any time an existing Contract awarded by the District Engineer or Chief Engineer increases in value to $1 million or more because of changes in the Contract,
- at any time there is an increase of $1 million or more to an existing Contract (e.g., change orders, extensions, and renewals), and
- at any time there is a change to the information in Form 1295, when the form was filed for an existing Contract.

Form 1295 and instructions for completing and filing the form are available on the Texas Ethics Commission website.

Special Provision 000
Important Notice to Contractors

Table 1
Daily Contract Administration Liquidated Damages

For Dollar Amount of Original Contract		Dollar Amount of Daily Contract Administration Liquidated Damages per Working Day
From More Than	To and Including	
0	1,000,000	618
1,000,000	3,000,000	832
3,000,000	5,000,000	940
5,000,000	15,000,000	1,317
15,000,000	25,000,000	1,718
25,000,000	50,000,000	2,411
50,000,000	Over 50,000,000	4,265

In addition to the amount shown in Table 1, the liquidated damages will be increased by the amount shown in Item 8 of the General Notes for Road User Cost (RUC), when applicable.

Special Provision to Item 000

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

1. GENERAL

In addition to the affirmative action requirements of the Special Provision titled "Standard Federal Equal Employment Opportunity Construction Contract Specifications" as set forth elsewhere in this proposal, the Bidder's attention is directed to the specific requirements for use of minorities and females as set forth below.

2. GOALS

Goals for minority and female participation are hereby established in accordance with 41 CFR 60-4.

The goals for minority and female participation expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area are as follows:

Goals for Minority Participation in Each Trade (%)	Goals for Female Participation in Each Trade (%)
See Table 1	6.9

These goals are applicable to all the Contractor's construction work (whether it is federal or federally assisted or not) performed in the covered area. If the Contractor performs construction work in a geographical area located outside the covered area, it will apply the goals established for such geographical area where the work is actually performed. Regarding this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction. The Contractor's compliance with the Executive Order (EO) and the regulations in 41 CFR 60-4 will be based on its implementation of the Standard Federal Equal Employment Opportunity Construction Contract Specifications Special Provision and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor must make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority and female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals will be a violation of the Contract, the EO, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

The overall good performance of other Contractors and subcontractors toward a goal in an approved plan does not excuse any covered Contractor's or subcontractor's failure to make good faith efforts to achieve the goals contained in these provisions. Contractors or subcontractors participating in the plan must be able to demonstrate their participation and document their compliance with the provisions of this plan.

3. SUBCONTRACTING

The Contractor must provide written notification to the Department within 10 working days of award of any construction subcontract more than $10,000 at any tier for construction work under the Contract resulting from this solicitation pending concurrence of the Department in the award. The notification will list the names, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and geographical area in which the Contract is to be performed.

4. COVERED AREA

As used in this Special Provision, and in the Contract resulting from this solicitation, the geographical area covered by these goals for female participation is the State of Texas. The geographical area covered by these goals for other minorities comprises the counties in the State of Texas as indicated in Table 1.

5. REPORTS

The Contractor is hereby notified that he may be subject to the Office of Federal Contract Compliance Programs (OFCCP) reporting and recordkeeping requirements as provided for under EO 11246 as amended. OFCCP will provide direct notice to the Contractor as to the specific reporting requirements that it will be expected to fulfill.

Table 1
Goals for Minority Participation

County	Participation, %	County	Participation, %
Anderson	22.5	Chambers	27.4
Andrews	18.9	Cherokee	22.5
Angelina	22.5	Childress	11.0
Aransas	44.2	Clay	12.4
Archer	11.0	Cochran	19.5
Armstrong	11.0	Coke	20.0
Atascosa	49.4	Coleman	10.9
Austin	27.4	Collin	18.2
Bailey	19.5	Collingsworth	11.0
Bandera	49.4	Colorado	27.4
Bastrop	24.2	Comal	47.8
Baylor	11.0	Comanche	10.9
Bee	44.2	Concho	20.0
Bell	16.4	Cooke	17.2
Bexar	47.8	Coryell	16.4
Blanco	24.2	Cottle	11.0
Borden	19.5	Crane	18.9
Bosque	18.6	Crockett	20.0
Bowie	19.7	Crosby	19.5
Brazoria	27.3	Culberson	49.0
Brazos	23.7	Dallam	11.0
Brewster	49.0	Dallas	18.2
Briscoe	11.0	Dawson	19.5
Brooks	44.2	Deaf Smith	11.0
Brown	10.9	Delta	17.2
Burleson	27.4	Denton	18.2
Burnet	24.2	DeWitt	27.4
Caldwell	24.2	Dickens	19.5
Calhoun	27.4	Dimmit	49.4
Callahan	11.6	Donley	11.0
Cameron	71.0	Duval	44.2
Camp	20.2	Eastland	10.9
Carson	11.0	Ector	15.1
Cass	20.2	Edwards	49.4
Castro	11.0	Ellis	18.2

County	Participation, %	County	Participation, %
El Paso	57.8	Kenedy	44.2
Erath	17.2	Kent	10.9
Falls	18.6	Kerr	49.4
Fannin	17.2	Kimble	20.0
Fayette	27.4	King	19.5
Fisher	10.9	Kinney	49.4
Floyd	19.5	Kleberg	44.2
Foard	11.0	Knox	10.9
Fort Bend	27.3	Lamar	20.2
Franklin	17.2	Lamb	19.5
Freestone	18.6	Lampasas	18.6
Frio	49.4	LaSalle	49.4
Gaines	19.5	Lavaca	27.4
Galveston	28.9	Lee	24.2
Garza	19.5	Leon	27.4
Gillespie	49.4	Liberty	27.3
Glasscock	18.9	Limestone	18.6
Goliad	27.4	Lipscomb	11.0
Gonzales	49.4	Live Oak	44.2
Gray	11.0	Llano	24.2
Grayson	9.4	Loving	18.9
Gregg	22.8	Lubbock	19.6
Grimes	27.4	Lynn	19.5
Guadalupe	47.8	Madison	27.4
Hale	19.5	Marion	22.5
Hall	11.0	Martin	18.9
Hamilton	18.6	Mason	20.0
Hansford	11.0	Matagorda	27.4
Hardeman	11.0	Maverick	49.4
Hardin	22.6	McCulloch	20.0
Harris	27.3	McLennan	20.7
Harrison	22.8	McMullen	49.4
Hartley	11.0	Medina	49.4
Haskell	10.9	Menard	20.0
Hays	24.1	Midland	19.1
Hemphill	11.0	Milam	18.6
Henderson	22.5	Mills	18.6
Hidalgo	72.8	Mitchell	10.9
Hill	18.6	Montague	17.2
Hockley	19.5	Montgomery	27.3
Hood	18.2	Moore	11.0
Hopkins	17.2	Morris	20.2
Houston	22.5	Motley	19.5
Howard	18.9	Nacogdoches	22.5
Hudspeth	49.0	Navarro	17.2
Hunt	17.2	Newton	22.6
Hutchinson	11.0	Nolan	10.9
Irion	20.0	Nueces	41.7
Jack	17.2	Ochiltree	11.0
Jackson	27.4	Oldham	11.0
Jasper	22.6	Orange	22.6
Jeff Davis	49.0	Palo Pinto	17.2
Jefferson	22.6	Panola	22.5
Jim Hogg	49.4	Parker	18.2
Jim Wells	44.2	Parmer	11.0
Johnson	18.2	Pecos	18.9
Jones	11.6	Polk	27.4
Karnes	49.4	Potter	9.3
Kaufman	18.2	Presidio	49.0
Kendall	49.4	Randall	9.3

County	Participation, %	County	Participation, %
Rains	17.2	Reagan	20.0
Real	49.4	Throckmorton	10.9
Red River	20.2	Titus	20.2
Reeves	18.9	Tom Green	19.2
Refugio	44.2	Travis	24.1
Roberts	11.0	Trinity	27.4
Robertson	27.4	Tyler	22.6
Rockwall	18.2	Upshur	22.5
Runnels	20.0	Upton	18.9
Rusk	22.5	Uvalde	49.4
Sabine	22.6	Val Verde	49.4
San Augustine	22.5	Van Zandt	17.2
San Jacinto	27.4	Victoria	27.4
San Patricio	41.7	Walker	27.4
San Saba	20.0	Waller	27.3
Schleicher	20.0	Ward	18.9
Scurry	10.9	Washington	27.4
Shackelford	10.9	Webb	87.3
Shelby	22.5	Wharton	27.4
Sherman	11.0	Wheeler	11.0
Smith	23.5	Wichita	12.4
Somervell	17.2	Wilbarger	11.0
Starr	72.9	Willacy	72.9
Stephens	10.9	Williamson	24.1
Sterling	20.0	Wilson	49.4
Stonewall	10.9	Winkler	18.9
Sutton	20.0	Wise	18.2
Swisher	11.0	Wood	22.5
Tarrant	18.2	Yoakum	19.5
Taylor	11.6	Young	11.0
Terrell	20.0	Zapata	49.4
Terry	19.5	Zavala	49.4

Special Provision to Item 000
Disadvantaged Business Enterprise in Federal-Aid Contracts

1. DESCRIPTION

The purpose of this Special Provision is to carry out the U.S. Department of Transportation's (DOT) policy of ensuring nondiscrimination in the award and administration of DOT-assisted Contracts and creating a level playing field on which firms owned and controlled by individuals who are determined to be socially and economically disadvantaged can compete fairly for DOT-assisted Contracts.

2. DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL-AID CONTRACTS

2.1. **Policy.** It is the policy of the DOT and the Texas Department of Transportation (Department) that DBEs, as defined in 49 CFR Part 26, Subpart A, and the Department's DBE Program, will have the opportunity to participate in the performance of Contracts financed in whole or in part with federal funds. The DBE requirements of 49 CFR Part 26, and the Department's DBE Program, apply to this Contract as follows.

The Contractor must solicit DBEs through reasonable and available means, as defined in 49 CFR Part 26, Appendix A, and the Department's DBE Program, or show a good faith effort to meet the DBE goal for this Contract.

The Contractor, subrecipient, or subcontractor will not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted Contracts. Failure to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Department deems appropriate.

The requirements of this Special Provision must be physically included in any subcontract.

By signing the Contract proposal, the Bidder is certifying that the DBE goal as stated in the proposal will be met by obtaining commitments from eligible DBEs or that the Bidder will provide acceptable evidence of good faith effort to meet the commitment.

2.2. **Definitions.**

2.2.1. **Administrative Reconsideration.** A process by which the low bidder may request reconsideration when the Department determines the good faith effort (GFE) requirements have not been met.

2.2.2. **Commercially Useful Function (CUF).** A CUF occurs when a DBE has the responsibility for the execution of the work and carrying out such responsibilities by actually performing, managing, and supervising the work.

2.2.3. **Disadvantaged Business Enterprise (DBE).** A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which is at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.

2.2.4. **DBE Joint Venture.** An association of a DBE firm and one or more other firms to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills, and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the Contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

2.2.5. **DOT.** The U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Aviation Administration (FAA).

2.2.6. **Federal-Aid Contract.** Any Contract between the Department and a Contractor that is paid for in whole or in part with DOT financial assistance.

2.2.7. **Good Faith Effort.** All necessary and reasonable steps to achieve the contract goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain enough DBE participation, even if not fully successful. Good faith efforts are evaluated before award and throughout performance of the Contract. For guidance on good faith efforts, see 49 CFR Part 26, Appendix A.

2.2.8. **North American Industry Classification System (NAICS).** A designation that best describes the primary business of a firm. The NAICS is described in the North American Industry Classification Manual—United States, which is available on the Internet at the U.S. Census Bureau website: http://www.census.gov/eos/www/naics/.

2.2.9. **Race-Conscious.** A measure or program that is focused specifically on assisting only DBEs, including women-owned businesses.

2.2.10. **Race-Neutral DBE Participation.** Any participation by a DBE through customary competitive procurement procedures.

2.2.11. **Texas Unified Certification Program (TUCP) Directory.** An online directory listing all DBEs currently certified by the TUCP. The Directory identifies DBE firms whose participation on a Contract may be counted toward achievement of the assigned DBE Contract goal.

2.3. **Contractor's Responsibilities.**

2.3.1. **DBE Liaison Officer**. Designate a DBE liaison officer who will administer the Contractor's DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.

2.3.2. **Compliance Tracking System (CTS)**. This Contract is subject to electronic Contract compliance tracking. Contractors and DBEs are required to provide any noted and requested Contract compliance-related data electronically in the Department's tracking system. This includes commitments, payments, substitutions, and good faith efforts. Contractors and DBEs are responsible for responding by any noted response date or due date to any instructions or request for information, and to check the system on a regular basis. A Contractor is responsible for ensuring all DBEs have completed all requested items and that their contact information is accurate and up-to-date. The Department may require additional information related to the Contract to be provided electronically through the system at any time before, during, or after contract award. The system is web-based and can be accessed at the following Internet address: https://txdot.txdotcms.com/.

In its sole discretion, the Department may require that contract compliance tracking data be submitted by Contractors and DBEs in an alternative format prescribed by the Department.

2.3.3. **Apparent Low Bidder.** The apparent low bidder must submit DBE commitments to satisfy the DBE goal or submit good faith effort Form 2603 and supporting documentation demonstrating why the goal could not be achieved, in whole or part, no later than 5 calendar days after bid opening. The means of transmittal and the

risk of timely receipt of the information will be the bidder's responsibility and no extension of the 5-calendar-day timeframe will be allowed for any reason.

2.3.4. **DBE Contractor.** A DBE Contractor may receive credit toward the DBE goal for work performed by its own forces and work subcontracted to DBEs. If a DBE subcontracts to a non-DBE, that information must be reported monthly.

2.3.5. **DBE Committal.** Only those DBEs certified by the TUCP are eligible to be used for goal attainment. The Department maintains the TUCP DBE Directory. The Directory can be accessed at the following Internet address: https://txdot.txdotcms.com/FrontEnd/VendorSearchPublic.asp?TN=txdot&XID=2340.

A DBE must be certified on the day the commitment is considered and at time of subcontract execution. It is the Contractor's responsibility to ensure firms identified for participation are approved certified DBE firms.

The Bidder is responsible to ensure that all submittals are checked for accuracy. Any and all omissions, deletions, and/or errors that may affect the end result of the commitment package are the sole liabilities of the bidder.

Commitments in excess of the goal are considered race-neutral commitments.

2.3.6. **Good Faith Effort Requirements.** A Contractor who cannot meet the Contract goal, in whole or in part, must make adequate good faith efforts to obtain DBE participation as so stated and defined in 49 CFR Part 26, Appendix A.

2.3.6.1. **Administrative Reconsideration.** If the Department determines that the apparent low bidder has failed to satisfy the good faith efforts requirement, the Department will notify the Bidder of the failure and will give the Bidder an opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so..

The Bidder must request an administrative reconsideration of that determination within 3 days of the date of receipt of the notice. The request must be submitted directly to the Texas Department of Transportation, Civil Rights Division, 125 East 11th Street, Austin, Texas 78701-2483.

If a request for administrative reconsideration is not filed within the period specified the determination made is final and further administrative appeal is barred.

If a reconsideration request is timely received, the reconsideration decision will be made by the Department's DBE liaison officer or, if the DBE liaison officer took part in the original determination, the Department's executive director will appoint a department employee to perform the administrative reconsideration. The employee will hold a senior leadership position and will report directly to the executive director.

The meeting or written documentation must be provided or held within 7 days of the date the request was submitted.

The Department will provide to the Bidder a written decision if the Bidder did or did not make adequate good faith efforts to meet the Contract goal. The reconsideration decision is final and is not administratively appealed to DOT.

2.3.7. **Determination of DBE Participation.** The work performed by the DBE must be reasonably construed to be included in the work area and NAICS work code identified by the Contractor in the approved commitment.

Participation by a DBE on a Contract will not be counted toward DBE goals until the amount of the participation has been paid to the DBE.

Payments made to a DBE that was not on the original commitment may be counted toward the Contract goal if that DBE was certified as a DBE before the execution of the subcontract and has performed a Commercially Useful Function.

The total amount paid to the DBE for work performed with its own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its Contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subcontractor is itself a DBE.

DBE Goal credit for the DBE subcontractors leasing of equipment or purchasing of supplies from the Contractor or its affiliates is not allowed. Project materials or supplies acquired from an affiliate of the Contractor cannot directly or indirectly (second or lower tier subcontractor) be used for DBE goal credit.

If a DBE firm is declared ineligible due to DBE decertification after the execution of the DBE's subcontract, the DBE firm may complete the work and the DBE firm's participation will be counted toward the Contract goal. If the DBE firm is decertified before the DBE firm has signed a subcontract, the Contractor is obligated to replace the ineligible DBE firm or demonstrate that it has made good faith efforts to do so.

The Contractor may count 100% of its expenditure to a DBE manufacturer. According to 49 CFR 26.55(e)(1)(i), a DBE manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.

The Contractor may count only 60% of its expenditure to a DBE regular dealer. According to 49 CFR 26.55(e)(2)(i), a DBE regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. A firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment must be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis. A long-term lease with a third-party transportation company is not eligible for 60% goal credit.

With respect to materials or supplies purchased from a DBE that is neither a manufacturer nor a regular dealer, the Contractor may count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a jobsite.

A Contractor may count toward its DBE goal a portion of the total value of the Contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the Contract performed by the DBE.

2.3.8. **Commercially Useful Function.** It is the Contractor's obligation to ensure that each DBE used on federal-assisted contracts performs a commercially useful function on the Contract.

The Department will monitor performance during the Contract to ensure each DBE is performing a CUF.

Under the terms established in 49 CFR 26.55, a DBE performs a CUF when it is responsible for execution of the work of the Contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.

With respect to material and supplies used on the Contract, a DBE must be responsible for negotiating price, determining quality and quantity, ordering the material, installing the material, if applicable, and paying for the material itself.

With respect to trucking, the DBE trucking firm must own and operate at least one fully licensed, insured, and operational truck used on the Contract. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the Contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement.

A DBE does not perform a CUF when its role is limited to that of an extra participant in a transaction, Contract, or project through which funds are passed to obtain the appearance of DBE participation. The Department will evaluate similar transactions involving non-DBEs to determine whether a DBE is an extra participant.

If a DBE does not perform or exercise responsibility for at least 30% of the total cost of its Contract with its own work force, or the DBE subcontracts a greater portion of the work than would be expected on the basis of normal industry practice for the type of work involved, the Department will presume that the DBE is not performing a CUF.

If the Department determines that a DBE is not performing a CUF, no work performed by such DBE will count as eligible participation. The denial period of time may occur before or after a determination has been made by the Department.

In case of the denial of credit for non-performance of a CUF, the Contractor will be required to provide a substitute DBE to meet the Contract goal or provide an adequate good faith effort when applicable.

2.3.8.1. **Rebuttal of a Finding of No Commercially Useful Function.** Consistent with the provisions of 49 CFR 26.55(c)(4)&(5), before the Department makes a final finding that no CUF has been performed by a DBE, the Department will notify the DBE and provide the DBE the opportunity to provide rebuttal information.

CUF determinations are not subject to administrative appeal to DOT.

2.3.9. **Joint Check.** The use of joint checks between a Contractor and a DBE is allowed with Department approval. To obtain approval, the Contractor must submit a completed Form 2178, “DBE Joint Check Approval,” to the Department.

The Department will closely monitor the use of joint checks to ensure that such a practice does not erode the independence of the DBE nor inhibit the DBE’s ability to perform a CUF. When joint checks are used, DBE credit toward the Contract goal will be allowed only when the subcontractor is performing a CUF in accordance with 49 CFR 26.55(c)(1).

Long-term or open-ended joint checking arrangements may be a basis for further scrutiny and may result in the lack of participation towards the Contract goal requirement if DBE independence cannot be established.

Joint checks will not be allowed simply for the convenience of the Contractor.

If the proper procedures are not followed or the Department determines that the arrangements result in a lack of independence for the DBE involved, no credit for the DBE’s participation as it relates to the material cost will be used toward the Contract goal requirement, and the Contractor will need to make up the difference elsewhere on the project.

2.3.10. **DBE Termination and Substitution.** No DBE named in the commitment submitted under Section 2.3.5. will be terminated for convenience, in whole or part, without the Department’s approval. This includes, but is not

limited to, instances in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

Unless consent is provided, the Contractor will not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Contractor, before submitting its request to terminate, must first give written notice to the DBE of its intent to terminate and the reason for the termination. The Contractor will copy the Department on the Notice of Intent to terminate.

The DBE has 5 calendar days to respond to the Contractor's notice and will advise the Contractor and the Department of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Department should not approve the prime Contractor's request for termination.

The Department may provide a shorter response time if required in a particular case as a matter of public necessity.

The Department will consider both the Contractor's request and DBE's stated position before approving the request. The Department may provide a written approval only if it agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate the DBE. If the Department does not approve the request, the Contractor must continue to use the committed DBE firm in accordance with the Contract. For guidance on what good cause includes, see 49 CFR 26.53.

Good cause does not exist if the Contractor seeks to terminate, reduce, or substitute a DBE it relied upon to obtain the Contract so that the Contractor can self-perform the work for which the DBE firm was engaged.

When a DBE subcontractor is terminated, make good faith efforts to find, as a substitute for the original DBE, another DBE to perform, at least to the extent needed to meet the established Contract goal, the work that the original DBE was to have performed under the Contract.

Submit the completed Form 2228, "DBE Termination Substitution Request," within seven (7) days, which may be extended for an additional 7 days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated. If the Department determines that good faith efforts were not demonstrated, the Contractor will have the opportunity to appeal the determination to the Civil Rights Division.

2.3.11. **Reports and Records.** By the 15th of each month and after work begins, report payments to meet the DBE goal and for DBE race-neutral participation on projects with or without goals. These payment reports will be required until all DBE subcontracting or material supply activity is completed. Negative payment reports are required when no activity has occurred in a monthly period.

Notify the Area Engineer if payment to any DBE subcontractor is withheld or reduced.

Before receiving final payment from the Department, the Contractor must indicate a final payment on the compliance tracking system. The final payment is a summary of all payments made to the DBEs on the project.

All records must be retained for a period of 3 years following completion of the Contract work, and must be available at reasonable times and places for inspection by authorized representatives of the Department or the DOT. Provide copies of subcontracts or agreements and other documentation upon request.

2.3.12. **Failure to Comply.** If the Department determines the Contractor has failed to demonstrate good faith efforts to meet the assigned goal, the Contractor will be given an opportunity for reconsideration by the Department.

A Contractor's failure to comply with the requirements of this Special Provision will constitute a material breach of this Contract. In such a case, the Department reserves the right to terminate the Contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Contractor; or to secure a refund, not as a penalty but as liquidated damages, to the Department or such other remedy or remedies as the Department deems appropriate.

2.3.13. **Investigations.** The Department may conduct reviews or investigations of participants as necessary. All participants, including, but not limited to, DBEs and complainants using DBE Subcontractors to meet the Contract goal, are required to cooperate fully and promptly with compliance reviews, investigations, and other requests for information.

2.3.14. **Falsification and Misrepresentation.** If the Department determines that a Contractor or subcontractor was a knowing and willing participant in any intended or actual subcontracting arrangement contrived to artificially inflate DBE participation or any other business arrangement determined by the Department to be unallowable, or if the Contractor engages in repeated violations, falsification, or misrepresentation, the Department may:

- refuse to count any fraudulent or misrepresented DBE participation;
- withhold progress payments to the Contractor commensurate with the violation;
- reduce the Contractor's prequalification status;
- refer the matter to the Office of Inspector General of the US Department of Transportation for investigation; and/or
- seek any other available contractual remedy.

Special Provision to Item 000
Activation of Federal Contract Provisions

The following contract provisions are not applicable unless work performed under this Contract is for emergency repair work associated with an emergency event:

- Form FHWA-1273;
- Wage Rate Schedule;
- Special Provision to Item 000, “Certification of Nondiscrimination in Employment”;
- Special Provision to Item 000, “Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)”;
- Special Provision to Item 000, “Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)”;
- Special Provision to Item 000, “On-the-Job Training Program”;
- Special Provision to Item 000, “Cargo Preference Act Requirements in Federal Aid Contracts”;
- Special Provision to Item 000, “Disadvantaged Business Enterprise in Federal Aid Contracts”; and
- Disclosure of Lobbying Activities.

At the time of activation of these federal contract provisions, the Contract will be amended to include the most current U.S. Department of Labor (DOL) prevailing wage rate schedule. The DOL prevailing wage rates will apply only to emergency repair work performed under this Contract at the time federal contract provisions are activated. The Disclosure of Lobbying Activities form included in the proposal must also be completed and submitted when federal contract provisions are activated. Added bid items and existing items’ unit prices used for emergency repair work will be negotiated with considerations for the effect of requiring prevailing wage rates. Upon completion of emergency repair work as determined by the Engineer, the federal contract provisions will be deactivated and the original Contract wage rates and existing bid items’ unit prices will resume.

The Engineer will notify the Contractor in writing of the effective date for compliance with the above requirements.

Special Provision to Item 4
Scope of Work

Item 4, “Scope of Work,” of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 4.4., “Changes in the Work,” is supplemented by the following.

When mutually agreed in writing, the Engineer may extend the Contract if the Contractor has satisfactorily fulfilled the terms and conditions of the Contract. The extension may be for a period not to exceed the original Contract time and may include additional quantities up to the original bid quantities plus any quantities added by change order. Unit prices may be adjusted to reflect the current Federal Consumer Price Index for the Southern Region. The extension will meet the terms and conditions of the Contract. Execute the extension before the final acceptance of the Contract unless agreed upon by the Engineer. Prosecute the Contract and the extension consecutively. Only one extension will be allowed.

Special Provision to Item 6
Control of Materials

Item 6, "Control of Materials" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.1. "Buy America," and Section 1.2., "Buy America Exceptions," are voided and replaced by the following.

1.1. **Buy America**. Comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law and applicable CFR, which restrict funds being made available from Federal financial assistance programs unless all the iron products, steel products, manufactured products, and construction materials used in the project are produced in the United States. Use iron or steel products, manufactured products, or construction materials produced in the United States for all permanently installed materials and products except when defined in Section 1.1.5., "Buy America Exceptions."

A material is solely classified based on its status at the time it is brought to the work site as either an iron or steel product, construction material, manufactured product, or Section 70917(c) material. Refer to the Buy America Material Classification Sheet found in the general notes or txdot.gov for additional clarification on material classification.

1.1.1. **Iron or Steel**. Iron or steel products means articles, materials, or supplies that consist of iron or steel or a combination of both. For iron or steel products, manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, bending.) and coating (e.g., paint, galvanizing, epoxy).

For iron or steel products, submit a notarized original FORM D-9-USA-1 (Department Form 1818) with the proper attachments for verification of compliance.

1.1.2. **Section 70917(c) Materials**. Section 70917(c) materials mean cement and cementitious material; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Section 70917(c) materials do not require domestic sourcing or Buy America certification.

1.1.3. **Construction Materials**. Construction materials are classified as articles, materials, or supplies that consist of only one of the items listed in bullets below. Minor additions (as determined by the plans or the Engineer) to any of the items listed is still a construction material.

- non-ferrous metals,
- plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables),
- glass (including optic glass),
- fiber optic cable (including drop cable),
- optical fiber,
- lumber,
- engineered wood, or
- drywall.

For construction materials, submit a Construction Material Buy America Certification Form (Department Form 2806) for verification of compliance that all manufacturing processes, as required, occurred in the

United States. Each construction material has specific certification requirements stated below. Provide additional documentation as requested.

Details shown on the plans provide additional clarification on Buy America requirements.

For non-ferrous metals, certification requires all manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

For plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables), certification requires all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

For glass (including optic glass), certification requires all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

For fiber optic cable (including drop cable), certification requires all manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

For optical fiber, certification requires all manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

For lumber, certification requires all manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.

For engineered wood, certification requires all manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

For drywall, certification requires all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

1.1.4. **Manufactured Products**. Materials classified as a manufactured product are currently waived from Buy America requirements by an FHWA general waiver and are not required to be domestically sourced. However, iron or steel products incorporated into manufactured products must meet iron and steel compliance requirements.

1.1.5. **Buy America Exceptions**. Use of iron, steel, construction materials, and manufactured products manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of the non-compliant products (other than iron or steel products) is no more than the lesser of $1,000,000 or 5% of Total Applicable Costs for the project. Total Applicable Cost means the actual cost of all materials requiring Buy America compliance including iron, steel, or other materials that are within the scope of existing waivers. Contractor must provide documentation showing under threshold in advance for Engineer's consideration.
- The total value of foreign iron and steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign steel may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.

- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

Special Provision to Item 8
Prosecution and Progress

Item 8, "Prosecution and Progress," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 8.6., "Failure to Complete Work on Time," is supplemented by the following.

6.1. **Lane Closure Assessment Fees**. Monetary assessment, as shown on the plans, will be made against the Contractor for any lane closure or obstruction that overlaps into the peak-hour traffic for each time increment shown on the plans or portion thereof, per lane, regardless of the length of lane closure or obstruction.

6.1.1. **Definition of Terms**. For this Contract, the following definitions apply.

6.1.1.1. **Time Increment**. Any continuous defined increment of time or portion thereof for a period beginning at that point when lanes are closed or obstructed by the Contractor's operations.

6.1.1.2. **Assessment Fee**. The amount shown on the proposal for each defined time increment, representing the average cost of interference and inconvenience to the road user for each lane closed or obstructed during peak-hour traffic. The Engineer may allow a proportional fee assessment for closures that do not involve an entire defined time increment.

6.1.1.3. **Closure or Obstruction**. When the Contractor's operations result in a reduced lane width of the travel way or shoulder less than that shown on the plans.

6.1.1.4. **Peak-Hour Traffic Times**. Schedule of days and times described in the General Notes when lane closures or obstructions are not allowed.

6.1.2. **Fee Calculation and Collection**. The assessment fee will be deducted from the amount due to the Contractor on the monthly construction estimate, and thus retained by the Department. The Engineer will determine the time of overlap of lane closures or obstructions for calculating the assessment fee. The fee is based on road user costs and is assessed not as a penalty, but for added expense incurred by the traveling public.

Special Specification 6005

Networking Intelligent Transportation System (ITS) Communications Cable

1. DESCRIPTION

Furnish, install, and test twisted-pair cable for networking and telecommunication uses in the field environment.

2. MATERIALS

2.1. **General Requirements**. Provide new cable and connectors that are in conformance with the details shown on the plans and in the Specifications. The cable must be free of deformations, holes, splits, and splices.

ITS networking copper cables must be constructed for installation in an outdoor underground conduit environment. All cable provided for underground installation must contain the outside plant designation for outdoor usage and must be rated non-plenum.

Provide cable in compliance with the most current version of the following industry standards:

- NFPA National Electric Code (NEC),
- Rural Electrification Administration (REA) -PE-22 (7 CFR 1755.403), PE-39 (7 CFR 1755.390),
- ANSI /TIA-568-C, EIA/TIA-568-B.2-2001 (Category 5E Cable),
- EIA-232, EIA-422, EIA-485,
- TSB-36, and
- Underwriters Laboratory (UL).

Included in this Item are the ITS cable types listed in Table 1.

Table 1
Common Networking ITS Communication Cable Types

Cable Type	Nominal AWG Gauge	Application
category 5e Ethernet cable	#24 AWG	Standard 100Base-Tx, Gigabit Ethernet, up to 100 MHz bandwidth performance
category 6 Ethernet cable	#24 AWG	Gigabit Ethernet; up to 250MHz bandwidth performance
category 7 Ethernet cable	#24 AWG	10-Gigabit Ethernet, up to 600 MHz bandwidth performance. Category 7 cable is not typically utilized for ITS device applications. Category 7 cable applications include high bandwidth performance at network layer switches with 10 Gigabit connections.
serial communications cable (RS-232, RS-422, RS-485)	#22, #24 AWG	Serial port applications, low bandwidth, and small data rate transmission (<100 kb/s)
shielded twisted pair cable	#18-24 AWG	Telephone communications, below 16 MHz bandwidth performance
unshielded twisted pair (UTP) cable	#18-24 AWG	

Included in this Item are all terminating connectors and associated equipment required for installation and testing in a field environment.

Provide cable conforming to the gauge, type, and length shown on the plans. Ensure the cable gauge supplied meets the bandwidth requirements specific to the cable application and run length.

Provide signal amplification or repeater locations for communications cable runs as shown on the plans and in the Specifications.

When selecting serial communications cable for longer cable runs, verify the conductor gauge to be provided will meet signal loss requirements for cable application. Refer to Table 2 for typical cable distance limitations for ITS serial communications cable.

Table 2
Typical Network Communications Cable
Distance Limitations

Cable Type	Recommended Maximum Cable Run[1]
RS-232	50 ft.
RS-422 (4 wire system)	500 ft.
RS-485 (2 wire system)	500 ft.
category 5e	300 ft.
category 6	300 ft.

1. Cable distance limitation to be verified according to manufacturer for the cable application.

All cable provided must be manufactured with permanent markings at approximate 2-ft. intervals on the outer jacket according to manufacturer name, serial number, type, UL list and classification for identification purposes. All pairs must be color coded using standard North American communication industry colors to uniquely identify each pair in the cable.

2.2. **Physical Requirements**. Provide networking communications cable meeting the following physical requirements.

2.2.1. **Conductor**. All networking cable must be constructed of solid bare copper conductor.

2.2.2. **Insulation**. All networking cable must be of foamed, cellular dielectric construction. Dielectric material must adhere to and support the center cable conductor.

2.2.2.1. **Insulation Material**. Serial communications cable insulation must be high-density polyethylene (HDPE) or equivalent. Ethernet networking cable insulation must be polyolefin or HDPE. UTP cable insulation must be polyethylene, polyolefin, polypropylene, or fluorinated ethylene propylene.

2.2.3. **Shielding**. Serial communications cable shielding must contain combination foil-polyester and copper braid shield to reduce EMI interference. Ethernet networking cable must contain a combination foil-polyester shield.

2.2.3.1. **Coverage**. Serial communications cable must be constructed of 100% effective foil coverage, minimum 65% braided coverage. Ethernet networking cable (category 5e, 6, 7) must contain 100% effective foil cover.

2.2.4. **Outer Jacket**. Outer jacket must be rated for heavy duty ultraviolet (UV) exposure, sunlight, oil, and weather resistance necessary for outdoor installation.

2.2.4.1. **Jacket Material**. All networking cable outer jackets must be of PVC or polyethylene construction.

2.2.5. **Connectors**. Connectors must be matching, weather resistant, water and moisture proof, and outdoor-rated hardware that meet cable operating voltage, temperature, and impedance characteristics. Connectors must prevent the entry and collection of moisture to the cable and electrical connection point. Provide cable sealant during installation to seal connections from moisture and corrosion.

2.3. **Electrical and Mechanical Requirements**. Ethernet networking cable as shown on the plans must be in accordance with the TIA/EIA-568-C standard, and according to performance characteristics defined in TIA/EIA-568-C.4-1. All Ethernet networking cable provided must meet IEEE 802.3af and IEEE 802.3at for Power over Ethernet (PoE) applications.

Serial communications cable and UTP must conform to the following requirements:

2.3.1. **Capacitance**. Serial communications cable capacitance must not exceed 35 picofarads (pF) per foot of cable. UTP cable capacitance must not exceed 15 pF per foot of cable.

2.3.2. **Inductance**. Serial communications cable inductance must not exceed 0.30 microhenry's (μH) per foot of cable.

2.3.3. **Impedance**. Provide 100-ohm nominal impedance for UTP cables and according to the manufacturer recommendation for cable application.

2.3.4. **Attenuation**. Attenuation of the cable must be compliant with requirements of the proposed application.

2.3.5. **Resistance**. The DC resistance of the serial communications cable inner conductor must not exceed 20 ohms per 1000 ft.

2.4. **Environmental Design Requirements**.

2.4.1. **Installation Temperature Rating**. Cable must be rated for an outside ambient temperature range of -20°F to 165°F.

2.4.2. **Storage Temperature Rating**. Cable must be rated for a storage temperature range of -40°F to 165°F.

3. CONSTRUCTION METHODS

3.1. **General**. Cable must be installed in accordance with the following industry procedures:

- ANSI/TIA -568-C,
- BICSI Telecommunications Distribution Methods Manual (TDMM) and Information Transport Systems Installation (ITSIM),
- NFPA National Electric Code (NEC),
- USDA Construction of Direct Buried Plant, and
- ICEA Standard for Aerial Service Wire - ANSI/ICEA 5-89-648.

3.1.1. **Cable Storage**. All uninstalled cable must be stored according to manufacturer recommended bend radius and cable reel requirements.

3.1.2. **Cable Labeling**. All cable must be labeled using pre-laminated labels with UV protection according to usage at all terminations. Provide weatherproof labels rated for outdoor use.

3.1.3. **Installation Procedure**. All cable must be inspected and tested for continuity when received, with results compared with factory pre-shipping tests. Inspect the cable nomenclature to make certain that the correct product has been received. Notify the supplier (or manufacturer) of all discrepancies for immediate correction.

Install the network cable routed as shown on the plans and follow the manufacturer recommendations for installation.

Ensure that all exposed cable ends are covered and protected against moisture and dust penetration at all times during installation. Protect cable ends during storage, cable pulls, and post-installation.

3.1.4. **Conduit Fill Requirements**. Install cable as shown on the plans and ensure that NEC and TIA/EIA fill requirements must be met for all cable runs.

3.1.5. **Cable Slack Requirements**. Provide 25 ft. cable slack maximum in pull boxes and per manufacturer requirements.

3.1.6. **Spacing Requirements**. Provide minimum 12-in. spacing between electrical power cable and communications cable types as described for underground installations within NEC Sections 840.44 and 840.47.

3.2. **Testing**. Procedures for the tests noted below are to be in accordance with industry standard practice and recorded in accordance with ANSI/TIA/EIA rules for documentation for the cable type. Perform tests in accordance with testing requirements in this Item. For all tests, provide test forms to be used that compare measured results with threshold values. The following tests must be performed, recorded, and submitted to verify the cable performance and installation:

3.2.1. **Cable Continuity**. Perform cable continuity test for center conductor and shield continuity and record results. The test must be performed on received cable reels to identify any discrepancies and upon final installed cable interconnections. Test continuity of each pair to show a resistance of not more than 8 ohms per 1000 ft. of conductor. Use meter with a minimum input resistance measurement to be in accordance with RUS 7 CFR 1755.403 Copper Cable Telecommunications Plant Measurements.

3.2.2. **Time Domain Reflectometry (TDR)**. Perform TDR test for impedance continuity per manufacturer recommendations in coaxial cable interconnections and record results.

3.2.3. **Ground Resistance**. Use a Megohmmeter to perform ground resistance testing of all conductors including the shield, and conductor-to-conductor, including all individual conductors to the shield. Ensure that all conductor tests, including the shield, read infinity to ground, and from conductor to conductor and all individual conductors to the shield, read infinity. Replace cable not meeting the infinity test result at no expense to the department, whether one or multiple readings per cable are defective.

3.2.4. **Visual Inspection**. Where cable installation is visible, perform visual inspection (with a Department representative) to verify any evidence of the following:

- cable damage (cracks, shield damage, kinks, knots, jacket damage, crushed cable),
- bend radius violations (at conduit fittings, cabinet locations), and
- cable crimping method—use of manufacturers specified cable crimp tool only (use of pliers not permitted).

3.3. **Documentation**. Submit three copies of the following materials for each cable type provided for approval prior item supply:

- manufacturer cutsheets and complete specifications (physical, electrical, mechanical, and environmental),
- manufacturer warranty information,
- independent test lab certification, and
- blank test forms.

Submit three copies of the following materials for each cable run provided for approval post installation:

- test results,
  - completed test forms,

- cable continuity test,
- TDR test,

- "As-built" documentation for cable path as shown on the plans,
- complete maintenance and trouble-shooting procedures, and
- furnish additional information as shown on the plans.

3.4. **Warranty**. Warrant all cable against defects or failure in design, materials, and workmanship in conformance with the manufacturer's standard warranty.

Supply cable with no less than 95% of the manufacturer's warranty remaining on the date that equipment invoices are submitted for final payment. Any material with less than 95% warranty remaining will be rejected.

Warrant all cable furnished and installed to perform in conformance with the manufacturer published specifications for a period of 1 yr. after final acceptance of the project by the Department. Provide for "on-site" repair or replacement within two working days and at no cost to the Department. Repair or replace any defective cable, at the manufacturer's option, at no cost to the Department.

4. MEASUREMENT

This Item will be measured by the foot of cable or by each connector.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ITS Communications Cable (Ethernet)," "ITS Communication Cable (Serial)," and "ITS Communication Cable Connector." For twisted pair communications cable runs, work performed, and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ITS Communications Cable" of the type, size, and number of pairs specified. The price is full compensation for furnishing, installing, splicing, and testing cable and connectors, as well as for installation equipment, materials, tools, and incidentals.

Special Specification 6006
Video Imaging Vehicle Detection System

1. DESCRIPTION

Furnish, install, relocate, or remove video imaging vehicle detection system (VIVDS) at locations shown on the plans, or as directed. Use VIVDS listed on the Department's prequalified products list.

2. MATERIALS

2.1. **General**. Furnish, assemble, and install only new materials except as allowed for relocation of VIVDS equipment. Ensure all VIVDS within the project are from the same manufacturer.

VIVDS must analyze video images and produce vehicle detector outputs that can serve as inputs to a traffic signal controller. Provide VIVDS field equipment that is compatible with existing infrastructure and software located in the Department's Traffic Management Control Centers across the state as directed. VIVDS must meet Department TSS Protocol requirements when integration with Traffic Management Center software or systems is shown on the plans.

VIVDS equipment must include the following:

- camera and mounting hardware (fixed or variable focal length; infrared; or 360° "fish-eye"),
- VIVDS processor,
- cabinet control unit and associated devices required for system integration, and
- data, power, and communication cable, connectors, and assemblies.

The VIVDS must use one or more cameras and video processing equipment to accurately provide detector calls for the intersection, approach, or roadway segment where they are installed, and provide detection as shown on the plans. A single camera placed per manufacturer recommendations must be capable of monitoring and detecting five lanes of traffic simultaneously.

Ensure the system is designed and constructed with subassemblies, circuits, cards, and modules to maximize standardization and commonality.

Ensure field replaceable parts are accessible for inspection and maintenance. Provide test points for checking essential voltages and waveforms.

VIVDS devices must self-recover from power failure once power is restored.

2.2. **Configuration and Management**. Ensure that the VIVDS allows local and remote configuration and monitoring. The VIVDS must allow the user to fully configure the system and place detection zones using a mouse, monitor, and keyboard (or keypad) connected to the VIVDS. Provide each VIVDS with all associated equipment required to configure and operate the system in a field environment including a video monitor, mouse, keyboard (or keypad), software, and interface cables as applicable. The VIVDS must also support local configuration and monitoring using a laptop computer but must not require a computer for local configuration, monitoring, and operation.

Ensure that the system can display detection zones and detection activations overlaid on live video from VIVDS cameras.

Ensure that the VIVDS allows a user to edit previously defined configuration parameters, including size, placement, and sensitivity of detection zones.

Ensure that the VIVDS retains its programming in nonvolatile memory. Ensure that the detection system configuration settings can be saved to a computer and restored from a saved file locally and remotely. The system must allow stored configurations to be modified for fine-tuning and optimization. The VIVDS must continue to detect vehicles and operate normally while configuration and detection zone modifications are made.

Ensure the VIVDS does not require adjustment or recalibration to maintain performance once initial calibration and configuration is complete.

2.3. **Detection Zones**. The VIVDS must allow a user to configure detection zones using a graphical user interface (GUI) superimposed on a video image of the roadway. Ensure detection zones can be placed anywhere within a camera field of view. Ensure VIVDS detection zones can detect vehicle presence and collect traffic data, such as traffic counts.

Detection zones must appear as lines or polygons in the field of view. The system must allow a minimum of eight detection zones per field of view. VIVDS detection zones must be able to provide detection equivalent to a 6 ft. by 6 ft. loop. Ensure zones can be sized, shaped, and overlapped to accurately detect vehicles at the locations shown on the plans.

The system must allow zones to be configured with directionality, delay, extension, and logic functions including “AND” and “OR.” If each detection zone provides a unique output to the signal controller and the controller includes logical functions, then the VIVDS is not required to support logic functions.

Ensure zones displayed on a monitor provide a visual indication when vehicles are detected during configuration and operation.

2.4. **Detection**. VIVDS processor must compensate for minor camera movement. Movement up to 2% of field of view at 400 ft. must not produce a false detection.

Ensure VIVDS processor operates regardless of whether monitoring equipment is connected. If monitoring equipment is connected to the processor unit, vehicle detections are displayed real-time as they occur.

VIVDS must simultaneously detect vehicles in all lanes. VIVDS must be able to accurately detect approaching and departing vehicles in multiple lanes. VIVDS is configurable for which direction of travel to detect. Ensure vehicles traveling in any direction other than the configured direction of travel (e.g., cross-street and wrong-way traffic) do not activate a call to the controller.

Ensure a constant call is placed on outputs associated with zones or cameras that are in an error state or failed. Ensure a constant call is placed on assigned outputs whenever the system is unable to provide accurate detection.

2.5. **Accuracy**. Ensure VIVDS individual lane accuracy for vehicle presence detection is within 5% of actual.

2.6. **Camera**. Use color or thermal cameras that are provided as part of an engineered system by the VIVDS processor manufacturer or approved for use by the VIVDS processor manufacturer. Ensure that analog cameras provide NTSC composite video with a minimum resolution of at least 480 TVL.

Cameras must produce useable video suitable for detection in low light. Cameras with day and night modes must automatically and seamlessly transition between modes without producing vehicle detection errors such as false calls and missed calls. Nighttime monochrome operation must produce feature resolvable video with luminance as low as 0.1 lux. Nighttime color operation must produce feature resolvable video with luminance as low as 1.0 lux.

Cameras must produce resolvable features in the video with luminance as high as 10,000 lux.

Visual spectrum cameras must include automatic electronic shutter and iris control based on average scene luminance.

Variable focal length lenses must be adjustable from 6 mm to 34 mm.

Processed images produced by the VIVDS must use a standard encoding format such as H.264 or MJPEG unless otherwise shown on the plans.

2.6.1. **Thermal cameras**. Thermal imaging cameras must use a long-life, uncooled vanadium oxide microbolometer thermal detector with a spectral range of 7.5 to 13.5 µm.

Ensure analog video is compliant with National Television System Committee (NTSC) standard and has a minimum NTSC array format of 320 x 240 with a 76,800 pixel effective resolution.

2.6.2. **Camera enclosure**. Camera and lens assembly must be housed in an enclosure designed for outdoor use. The housing must be light in color to limit solar heating and prolong equipment life. Enclosure, including cable connections, must be waterproof and dust tight with a NEMA Type 4 rating.

Ensure enclosures for visual spectrum cameras include a sunshield. Sunshield must protrude beyond the front edge of the enclosure and divert water away from the camera's field of view. Ensure the sunshield overhang is adjustable. Any plastics used in the construction of the enclosure must include ultraviolet inhibitors.

Ensure the enclosure allows the camera horizon to be rotated in the field during installation. Ensure camera focus and zoom can be adjusted, if necessary, without entering the camera enclosure.

The camera enclosure must be provided with mounting bracket designed to mount directly to a pole, mast-arm, or other structure. Ensure the bracket allows the camera to be panned and tilted for alignment and then locked into place once properly positioned.

The camera enclosure with camera and lens installed must weigh 10 lb. or less.

Camera housing must include a means to prevent the formation of ice or condensation. If camera housing includes a heater, wiper, or other electronically controlled mechanism, such mechanism does not interfere with the camera operation or video signal.

2.7. **Video Processor**. Ensure the VIVDS includes a machine vision processor that provides video analysis, presence detection, and interfaces for inputs and outputs. VIVDS must provide data collection features, including storage and reporting of collected vehicle detection data, when shown on the plans.

VIVDS must be able to interface with the traffic controller unit (CU) via the detector rack, SDLC, or another detector interface described in NEMA TS2-2016, unless otherwise shown on the plans. Solid state detection outputs must meet the requirements of NEMA TS2-2016, 6.5.2.26.

Each VIVDS detector rack card must have a minimum of four detector outputs. The system must be able to provide a total of 24 detection outputs. Ensure each zone and output is user definable, and previously saved zones can be redefined.

The system must be capable of functioning as a detector BIU using an RS-485 SDLC connector. TS2 Type 1 VIVDS must include indicators that display detector output status for verification of calls.

Analog video inputs must use BNC connectors or be routed through existing loop inputs using connections designed for that purpose. Analog video outputs must use BNC or RCA connectors. Use of external cable connections to create a combined video output is not allowed.

Ensure processor includes provisions to view video image in the field and remotely.

VIVDS processors installed in the traffic controller cabinet must utilize digital video or accommodate asynchronous, synchronous, and line-locked analog video as part of a complete system engineered by the VIVDS manufacturer.

2.8. **Camera Interface Panel**. Supply the VIVDS with a camera interface panel as required by the manufacturer that provides a cabinet connection point between field wiring from VIVDS cameras and VIVDS equipment in the cabinet. The interface panel must be provided by the VIVDS manufacturer as part of a complete engineered system. The panel must include terminal facilities and surge suppression for all conductors used to connect VIVDS field equipment, including camera power and communications. Interface panels for analog cameras must include a 10-amp breaker or blade type fuses and a power terminal strip with a minimum of eight 8/32 binder head screws for camera power connections. The panel must also have, as a minimum, four coax protectors (EDCO CX06 or equivalent). Additional lightning and transient protection will be allowed. All components that reside on the panel must be Department approved. For cameras utilizing POE the interface panel must consist of surge protection meeting GR 1089 standards.

Ensure interface panel is capable of being mounted on the side walls of the controller cabinet. Video connections must be isolated from earth ground.

2.9. **Cabling**. Supply the VIVDS with connector cables of the appropriate length for each installation site. Connector cables must include all conductors necessary for power, video, and communication. All cabling used must meet the minimum recommended specifications of the VIVDS manufacturer.

Ensure the power and data cable connectors are IP 67 to protect against intrusion of solids and water. External connectors must be quick disconnect and keyed to prevent improper connections. All wiring must be color coded and marked appropriately. Ensure all conductors that interface with the connector are encased in a single jacket.

Fiber optic cable, if used, must meet the Department requirements as shown in the plans.

If coaxial cable is used, it must be low loss, 75 ohm, precision video cable suited for outdoor installation and approved by the VIVDS manufacturer.

RS-485 and RS-232 communication cable must meet the requirements of Special Specification 6005, “Networking Intelligent Transportation System (ITS) Communications Cable.”

2.10. **Communication**. Ensure that the VIVDS includes a minimum of one serial or Ethernet communications interface.

Ensure serial interfaces and connectors conform to Telecommunications Industry Association (TIA)-232 standards. Ensure that the serial ports support data rates up to 115200 bps; error detection utilizing parity bits (i.e., none, even, and odd); and stop bits (1 or 2).

Ensure that wired Ethernet interfaces provide a 10/100 Base TX connection. Verify that all unshielded twisted pair or shielded twisted pair network cables and connectors are in accordance with TIA-568.

Ensure wireless communications are secure and that wireless devices are Federal Communications Commission (FCC) certified. Ensure that the FCC identification number is displayed on an external label and that all detection system devices operate within their FCC frequency allocation.

Ensure the system can be configured and monitored via one or more communications interface. Ensure that all communication addresses are user programmable.

2.11. **Software**. Ensure the VIVDS manufacturer includes all software required to configure and monitor operation of VIVDS field equipment locally and remotely. VIVDS software must be a stable production release approved by the Department's Traffic Operations Division.

Ensure VIVDS computer software includes a GUI that displays all configured lanes and provides visual representation of all detected vehicles. Server software must be designed to run on the Windows Server operating system (Windows Server 2012 or newer). Client workstation software must be designed to run on Microsoft Windows 7 Professional and newer.

VIVDS software must allow the user to program, operate, exercise, diagnose, and read status of all VIVDS features and functions using a laptop computer.

VIVDS computer software must be able to communicate with VIVDS field devices using TCP/IP and serial connections. The software must provide for local and remote configuration and monitoring, including display of detection zone activations on live video and modification of existing detection zone layouts.

System software must provide the user complete control over the configuration process for VIVDS devices and allow the user to load new firmware into non-volatile memory of VIVDS field devices locally and over any supported communication channel including TCP/IP networks.

The system software must include the ability to retrieve and store data collected by VIVDS field devices.

Ensure all licenses required for operation and use of software are included at no additional cost.

Software updates must be provided at no additional cost during the warranty period.

2.12. **Mechanical**. VIVDS detector card rack units must be in accordance with dimensions specified in NEMA TS2-2016, 6.5.2.2.2.

Ensure that all parts are fabricated from corrosion resistant materials, such as plastic, stainless steel, aluminum, or brass.

Ensure that all screws, nuts, and locking washers are stainless steel. Do not use self-tapping screws.

Ensure equipment is clearly and permanently marked with manufacturer name or trademark and part number as well as date of manufacture or serial number.

Ensure VIVDS is modular in design for ease of field replacement and maintenance.

All printed circuit boards must have conformal coating to protect against moisture and fungus.

2.13. **Electrical**. Ensure equipment is designed to protect personnel from exposure to high voltage during installation, operation, and maintenance. Ensure all connections include the manufacturer recommend surge protective device (SPD). SPDs must not interfere with the performance of the VIVDS. VIVDS electrical design must be modular.

Ensure the VIVDS operates on nominal 120 V_{AC}. A power converter must be provided for devices that do not operate on nominal 120 V_{AC}. Camera sensors must operate between 12 V_{DC} and 28 V_{DC}.

2.14. **Environmental**. All VIVDS devices must operate properly during and after being subjected to the environmental testing procedures described in NEMA TS2, Section 2. VIVDS cameras must be able to

withstand the maximum wind load defined in the Department's basic wind velocity zone map standard without any damage or loosening from structure.

2.15. **Connectors and Harnesses**. External connections exposed to the outdoor environment must be made with weatherproof connectors. Connectors must be keyed to ensure correct alignment and mating.

Ensure all conductors are properly color coded and identified. Ensure that every conductive contact surface or pin is gold-plated or made of a noncorrosive, nonrusting, conductive metal.

RS-485 and RS-232 communication cables must:

- be shielded, twisted pair cable with a drain wire;
- have a nominal capacitance conductor to conductor @ 1Khz ≥ 26pF/ ft.;
- have nominal conductor DC resistance @ 68°F ≤ 15 ohms/1,000 ft.;
- be one continuous run with no splices; and
- be terminated only on the two farthest ends of the cable.

2.16. **Documentation**. Provide hardcopy operation and maintenance manuals, along with a copy of all product documentation on electronic media. Include the following documentation for all system devices and software:

- operator manuals,
- installation manuals with installation procedures,
- maintenance and troubleshooting procedures, and
- manufacturer's specifications (functional, electrical, mechanical, and environmental).

Provide certification from an independent laboratory demonstrating compliance with NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

Provide certification that VIVDS electronic equipment meets FCC Class B requirements for electromagnetic interference and emissions.

Ensure the VIVDS system manufacturer has a quality assurance program for manufacturing VIVDS as described in this specification. Manufacturer of the VIVDS must be ISO 9001 certified or provide a copy of the company quality manual for review.

The VIVDS must pass testing to ensure functionality and reliability before delivery. Test results and supporting documentation, including serial number tested, must be submitted for each VIVDS. If requested, manufacturing data per serial number must be provided for each VIVDS.

2.17. **Warranty**. Warrant the equipment against defects or failure in design, materials, and workmanship for a minimum of 5 yr. or in accordance with the manufacturer's standard warranty if that warranty period is greater. The start date of the manufacturer's standard warranty will begin after the equipment has successfully passed all tests contained in the final acceptance test plan. Any VIVDS equipment with less than 90% of its warranty remaining after the final acceptance test is completed will not be accepted by the Department. Guarantee that equipment furnished and installed for this project performs per the manufacturer's published specifications. Assign, to the Department, all manufacturer's normal warranties or guarantees on all electronic, electrical, and mechanical equipment, materials, technical data, and products furnished for and installed on the project.

Malfunctioning equipment must be repaired or replaced at the Contractor's expense before completion of the final acceptance test plan. Furnish replacement parts for all equipment within 10 days of notification of failure by the Department.

During the warranty period, technical support must be available via telephone within 4 hr. of the time a call is made by a user, and this support must be available from factory certified personnel.

2.18. **Training**. Conduct a training class for a minimum of 8 hr., unless otherwise directed, for up to 10 representatives designated by the Department on installation, configuration, operation, testing, maintenance, troubleshooting, and repair. Submit a training session agenda, a complete set of training material, the names and qualifications of proposed instructors, and proposed training location for approval at least 30 days before the training. Conduct training within the local area unless otherwise directed. Provide one copy of course material for each attendee. Ensure that training includes:

- "hands-on" operation of system software and equipment;
- explanation of all system commands, their function and usage; and
- system "troubleshooting," operation, and maintenance.

3. CONSTRUCTION

3.1. **System Installation**. Install VIVDS devices and configure detection zones and settings as shown on the plans, in accordance with the manufacturer's recommendations, and as directed. Provide configuration file backups, including detector placement, names, communication settings, and output assignments. Completion of the work must present a neat, workmanlike, and finished appearance.

VIVDS installer must be certified by VIVDS manufacturer in proper installation setup and procedures. VIVDS integrator must be certified by the manufacturer for training end users in the maintenance, configuration, and operation of VIVDS.

Ensure VIVDS detector rack cards are properly installed and seated in the controller cabinet detector rack and use the card edge connector to obtain power and provide outputs. Rewiring the backplane or any other cabinet panel for the system is not permitted except for power and grounding for camera interface panels, wiring from the video camera sensor to the loop detector panel for the video signal inputs, as applicable, and wiring to obtain power for the VIVDS cameras.

Mount and aim cameras in a manner that eliminates as much environmentally generated glare as possible.

All wiring must be cut to proper length before assembly. Provide cable service loops. All cable slack must be neatly laced and placed in the bottom of the cabinet. Ensure cables are secured with clamps. Ensure cables between the controller cabinet and VIVDS cameras are continuous with no splices.

Provisions must be made for installation and configuration of software on Department computers.

3.2. **Temporary Use**. When shown on the plans, the VIVDS equipment must be used to provide vehicle detection on a temporary basis. When the permanent vehicle detection system and related equipment are installed and made operational, the VIVDS equipment must be carefully removed and delivered to the location shown on the plans.

3.3. **Mechanical Components**. Ensure that all fasteners, including bolts, nuts, and washers with a diameter less than 5/8 in. are Type 316 or 304 stainless steel and meet the requirements of ASTM F593 and ASTM F594 for corrosion resistance. Ensure that all bolts and nuts 5/8 in. and over in diameter are galvanized and meet the requirements of ASTM A307. Separate dissimilar metals with an inert dielectric material.

3.4. **Wiring**. All wiring and electrical work supplying the equipment must meet the requirements of the most current version of the National Electrical Code (NEC). Supply and install all wiring necessary to interconnect VIVDS cameras to the controller cabinet and incidentals necessary to complete the work. If additional cables are required, the Contractor must furnish and install them at no additional cost to the Department. Provide conductors at least the minimum size indicated on the plans and insulated for 600 V.

Cables must be cut to proper length before assembly. Provide cable slack for ease of removal and replacement. All cable slack must be neatly laced with lacing or straps in the bottom of the cabinet. Ensure cables are secured with clamps and include service loops.

3.5. **Electrical Service**. The Contractor is responsible for checking the local electrical service to determine if a modification is needed for the equipment.

3.6. **Grounding**. Ensure all VIVDS devices and supports are grounded in conformance with the NEC and manufacturer recommendations.

3.7. **Relocation of VIVDS Field Equipment**. Perform the relocation in strict conformance with the requirements herein and as shown on the plans. Completion of the work will present a neat, workmanlike, and finished appearance. Maintain safe construction practices during relocation.

Inspect the existing VIVDS field equipment with a representative from the Department and document any evidence of damage before removal. Conduct a pre-removal test in conformance with the testing requirements contained in this Item to document operational functionality. Remove and deliver equipment that fails inspection to the Department.

Before removal of existing VIVDS field equipment, disconnect and isolate the power cables from the electric power supply and disconnect all communication cabling from the equipment located inside the cabinet. Coil and store power and communication cabling inside the cabinet until such time that it can be relocated. Remove existing VIVDS field equipment as shown on the plans only when authorized.

Use care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

Make all arrangements for connection to power and communications including any permits required for the work to be done under the Contract. Provide conductors for the power connection at least the minimum size indicated on the plans and insulated for 600 V. Meet the requirements of the NEC most current version.

3.8. **Removal of VIVDS Field Equipment**. Perform the removal in strict conformance with the requirements herein and as shown on the plans. Completion of the work will present a neat, workmanlike, and finished appearance. Maintain safe construction practices during removal.

Disconnect and isolate any existing electrical power supply before removal of existing field equipment.

Use care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

All materials not designated for reuse or retention by the Department will become the property of the Contractor and be removed from the project site at the Contractor's expense. Deliver items to be retained by the Department to a location shown on the plans or General Notes. The Contractor is fully responsible for any removed equipment until released.

3.9. **Contractor Experience Requirements**. Contractor or designated subcontractor must meet the following experience requirements:

3.9.1. **Minimum Experience**. Three years of continuous existence offering services in the installation of VIVDS.

3.9.2. **Completed Projects**. Three completed projects where personnel installed, tested, and integrated VIVDS field equipment. The completed installations must have been in continuous satisfactory operation for a minimum of 1 yr.

3.9.3. **Equipment Experience**. One project (may be 1 of the 3 projects in the preceding paragraph) in which the personnel worked in cooperation with technical representatives of the equipment supplier to perform installation, integration, or acceptance testing of the work. The Contractor will not be required to furnish equipment on this project from the same supplier who was referenced in the qualification documentation.

Submit the names, addresses, and telephone numbers of the references that can be contacted to verify the experience requirements given above.

4. TESTING

Ensure that the following tests are performed on equipment and systems unless otherwise shown on the plans. The Department may witness all the tests.

4.1. **Test Procedures Documentation**. Provide an electronic copy of the test procedures and blank data forms 60 days before testing for each test required on this project. Include the sequence of the tests in the procedures. The Engineer must approve test procedures before submission of equipment for tests. Conduct all tests in conformance with the approved test procedures.

Record test data on the data forms as well as quantitative results. Ensure the data forms are signed by an authorized representative (company official) of the equipment manufacturer.

4.2. **Design Approval Test**. Ensure that the VIVDS has successfully completed a design approval test that confirms compliance with the environmental requirements of this Specification.

Provide a certification and test report from an independent testing laboratory as evidence of a successfully completed design approval test. Ensure that the testing by this laboratory is performed in conformance with the requirements of this Specification.

4.3. **Demonstration Test**. Conduct a demonstration test on applicable equipment at an approved Contractor facility. Notify the Engineer 10 working days before conducting this testing. Perform the following tests:

4.3.1. **Examination of Product**. Examine each unit carefully to verify that the materials, design, construction, markings, and workmanship comply with the requirements of this Specification.

4.3.2. **Continuity Tests**. Check the wiring to determine conformance with the requirements this Specification.

4.3.3. **Operational Test**. Operate each unit for at least 15 min. to permit equipment temperature stabilization and observation of a sufficient number of performance characteristics to ensure compliance with this Specification.

4.4. **Stand-Alone Test**. Conduct a stand-alone test for each unit after installation. The test must exercise all stand-alone (non-network) functional operations. Notify the Engineer 5 working days before conducting this test.

4.4.1. **Performance Test**. Ensure the VIVDS meets functional performance requirements of Section 2.55. using the following methods:

Verify presence detection accuracy at installed field sites by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect samples and ground truth data for each detection zone for a minimum of 5 min. during a peak period and 5 min. during an off-peak period. Ensure the sample period for each zone includes a minimum of three vehicles. Perform tests in the presence of the Engineer.

Recorded video of all cameras showing vehicle detections during a 24-hr. period at each intersection must be provided within 30 days upon request. This video must allow verification of proper camera placement, field of view, focus, detection zone placement, and operation.

4.5. **System Integration Test**. Conduct a system integration test on the complete functional system. Demonstrate all control and monitor functions for each system component and operate the system for 72 hr. Supply two copies of the system operations manual before the system integration test. Notify the Engineer

10 working days before conducting this testing. The Department may witness all the tests. Conduct a system integration test on the complete functional system. Demonstrate all control and monitor functions for each system component for 72 hr. Supply two copies of the system operations manual before the system integration test. Notify the Engineer 10 working days before conducting this testing.

4.6. **Consequences of Test Failure**. If a unit fails a test, submit a report describing the nature of the failure and the actions taken to remedy the situation before modification or replacement of the unit. If a unit requires modification, correct the fault and then repeat the test until successfully completed. Correct minor discrepancies within 30 days of written notice to the Engineer. If a unit requires replacement, provide a new unit and then repeat the test until successfully completed. Major discrepancies that will substantially delay receipt and acceptance of the unit will be enough cause for rejection of the unit.

If a failure pattern develops in similar units within the system, implement corrective measures, including modification or replacement of units, to all similar units within the system as directed. Perform the corrective measures without additional cost or extension of the contract period.

4.7. **Final Acceptance Test**. Conduct a final acceptance test on the complete functional system. Demonstrate all control, monitor, and communication requirements and operate the system for 90 days. The Engineer will furnish a letter of approval stating the first day of the final acceptance test. The completion of the final acceptance test occurs when system downtime due to mechanical, electrical, or other malfunctions to equipment furnished or installed does not exceed 72 hr. and any individual points of failure identified during the test period have operated free of defects.

4.8. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a consecutive 30-day period free of defects is achieved.

If after completion of the initial test period, the system downtime exceeds 72 hr. or individual points of failure have not operated for 30 consecutive days free of defects, extend the test period by an amount of time equal to the greater of the downtime more than 72 hr. or the number of days required to complete the performance requirement of the individual point of failure.

4.9. **Relocation and Removal**.

4.9.1. **Pre-Test**. Tests may include, but are not limited to, physical inspection of the unit and cable assemblies. Include the sequence of the tests in the procedures along with acceptance thresholds. Contractor to resubmit, if necessary, rejected test procedures for final approval within 10 days. Review time is calendar days. Conduct all tests in conformance with the approved test procedures.

Conduct basic functionality testing before removal of VIVDS field equipment. Test all functional operations of the equipment in the presence of representatives of the Contractor and the Department. Ensure that both representatives sign the test report indicating that the equipment has passed or failed each function. Once removed, the equipment becomes the responsibility of the Contractor until accepted by the Department. Compare test data before removal and test data after installation. The performance test results after relocation must be equal to or better than the test results before removal. Repair or replace those components within the system that failed after relocation but passed before removal.

4.9.2. **Post-Test**. Testing of the VIVDS field equipment is for relieving the Contractor of maintenance of the system. The Contractor will be relieved of the responsibility for maintenance of the system in accordance with Item 7, “Legal Relations and Responsibilities,” after a successful test period. The Contractor will not be required to pay for electrical energy consumed by the system.

After all existing VIVDS field equipment has been installed, conduct approved continuity, stand alone, and performance tests. Furnish test data forms containing the sequence of tests including all the data taken as well as quantitative results for all tests. Submit the test data forms to the Engineer at least 30 days before the

day the tests are to begin. Obtain Engineer's approval of test procedures before submission of equipment for tests. Send at least one copy of the data forms to the Engineer.

Conduct an approved stand-alone test of the equipment installation at the field sites. At a minimum, exercise all stand-alone (non-network) functional operations of the field equipment installed per the plans as directed. Complete the approved data forms with test results and turn over to the Engineer for review and either acceptance or rejection of equipment. Give at least 30 working days' notice before all tests to permit the Engineer or his representative to observe each test.

The Department will conduct approved VIVDS field equipment system tests on the field equipment with the central equipment. The tests will, as a minimum, exercise remote control functions and confirm communication with field equipment.

If any unit fails to pass a test, prepare a report and deliver it to the Engineer. Describe the nature of the failure and the corrective action needed. If the failure is the result of improper installation or damage during reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the Contract period.

5. MEASUREMENT

The VIVDS will be measured as each major system component furnished, installed, relocated, made fully operational, and tested or removed in accordance with this Special Specification or as directed.

The VIVDS communication cable will be measured by the foot of the appropriate media type furnished, installed, made fully operational, and tested in accordance with this Specification, other referenced Special Specifications, or as directed.

When the VIVDS is used on a temporary basis, the VIVDS will be measured as each system furnished, installed, made fully operational, including reconfiguration and removal if required by the plans, and tested in accordance with this Special Specification or as directed.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

When recorded, video is required. It will be paid for by each camera recorded.

6. PAYMENT

6.1. **Furnish and Install**. The work performed, materials, and all accompanying software furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "VIVDS Processor System," "VIVDS Camera Assembly" of the various types, "VIVDS Central Control Software," "VIVDS Temporary," "VIVDS Cabling," and "VIVDS Video Recording." These prices are full compensation for furnishing, configuring, placing, and testing all materials and equipment, and for all tools, labor, equipment, hardware, operational software packages, supplies, support, personnel training, shop drawings, documentation, and incidentals.

These prices include all interfaces required for the field and remote communications links along with any associated peripheral equipment, including cables; all associated mounting hardware and associated field equipment; and incidentals required for a complete and fully functional video imaging vehicle detection system.

6.2. **Install Only**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "VIVDS Processor System (Install Only)," "VIVDS Camera Assembly (Install Only)," "VIVDS Temporary (Install Only)," and "VIVDS Cabling (Install Only)." This price is full compensation for installing,

configuring, integrating, and testing the completed installation, including VIVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware; and for all labor, tools, equipment, documentation, testing, training, software, and incidentals necessary to complete the work.

6.3. **Relocate**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "VIVDS Processor System (Relocate)," "VIVDS Camera Assembly (Relocate)," "VIVDS Temporary (Relocate)," and "VIVDS Cabling (Relocate)." This price is full compensation for relocating and making fully operational existing equipment; furnishing and installing additional cables or connectors; testing, delivery, and storage of components designated for salvage or reuse; and all labor, tools, equipment, and incidentals necessary to complete the work.

6.4. **Remove**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "VIVDS Processor System (Remove)," "VIVDS Camera Assembly (Remove)," "VIVDS Temporary (Remove)," and "VIVDS Cabling (Remove)." This price is full compensation for removing existing equipment as shown on the plans; testing, delivery, and storage of components designated for salvage; and all labor, materials, tools, equipment, and incidentals necessary to complete the work.

Special Specification 6008

Radar Vehicle Detection System for Signalized Intersection Control

1. DESCRIPTION

Furnish, install, relocate, or remove radar vehicle detection systems (RVDS) of the specified devices at signalized intersections to provide the required zones of detection as shown on the plans, or as directed.

2. MATERIALS

2.1. **General**. Except as allowed for relocation of RVDS equipment, ensure all equipment and component parts are new in accordance with Division Specification TO-8000, "Radar Vehicle Detection System," Section 1.0–Section 6.0, and in an operable condition at time of delivery and installation.

The Traffic Safety Division, Traffic Management Section, (TRF-TM) updates TxDOT Material producer list (MPL) of all RVDSs conforming to this Specification. New materials appearing on the MPL require no further sampling and testing before use unless deemed necessary by the Engineer or TRF-TM. Provide prequalified RVDSs from the TxDOT MPL.

Ensure all RVDSs serving the same detection purpose within the project are from the same manufacturer. RVDS devices are classified by their functional requirements. The functional requirements are for radar presence detection devices (RPDDs) and radar advance detection devices (RADDs). The RVDS system classifications are RVDS (RPDD Only), RVDS (RADD Only), and RVDS (RPDD and RADD).

Provide each RVDS sensor with a mounting bracket designed to mount directly to a pole, mast arm, or other structure. Ensure bracket is designed such that the sensor can be tilted vertically and horizontally for alignment and then locked into place after proper alignment is achieved. All hardware must be designed to support the load of the RVDS sensor and mounting bracket.

2.2. **Configuration**. Ensure the RVDS provides vehicle detection as required on the plans, or as directed.

Ensure the RVDS does not require tuning or recalibration to maintain performance once initial calibration and configuration are complete. RVDS must not require cleaning or adjustment to maintain performance.

RVDS must self-recover from power failure once power is restored.

2.3. **Cabling**. Provide appropriate length of all cables necessary to make the RVDS fully operational at each installation site.

2.4. **Software**. Ensure the RVDS manufacturer includes all software required to configure and monitor operation of RVDS field equipment locally and remotely. RVDS software must be a stable production release.

Software must allow the user to configure, operate, exercise, diagnose, and read status of all RVDS features and functions using a laptop computer.

Software must include the ability to save a local copy of RVDS field device configurations and load saved configurations to RVDS field devices.

Ensure all licenses required for operation and use of software are included at no additional cost.

Software updates must be provided at no additional cost during the warranty period.

2.5. **Electrical**. All conductors supplying the equipment must meet NEC requirements.

Ensure equipment is designed to protect personnel from exposure to high voltage during installation, operation, and maintenance.

2.6. **Mechanical**. Ensure that all parts are fabricated from corrosion-resistant materials, such as plastic, stainless steel, aluminum, or brass.

Ensure that all screws, nuts, and locking washers are corrosion-resistant. Do not use self-tapping screws.

Ensure equipment is clearly and permanently marked with manufacturer name or trademark, part number, date of manufacture, and serial number.

Ensure RVDS is modular in design for ease of field replacement and maintenance. Provide a sensor that will minimize weight and wind loading when mounted on a traffic signal pole or mast arm.

All printed circuit boards must have conformal coating.

2.7. **Environmental**. RVDS sensor must be able to withstand the maximum wind load based on the Department's basic wind velocity zone map standard without any damage or loosening from structure.

The RVDS enclosure must conform to criteria set forth in NEMA 250 for Type 4X enclosures.

The RVDS must meet all NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

2.8. **Connectors and Harnesses**. Ensure all conductors are properly color-coded and identified.

Ensure cable connector design prohibits improper connections. Cable connector pins are plated to improve conductivity and resist corrosion.

Connections for data and power must be made to the RVDS sensor using waterproof, quick-disconnect connectors. Pigtails from the sensor to a waterproof junction box (NEMA 4) or an approved waterproof connector must be allowed for splicing. The pigtails must not be shorter than 3 ft. unless otherwise shown on the plans.

3. CONSTRUCTION

3.1. **System Installation**. Install RVDS system devices according to the manufacturer's recommendations to provide properly functioning detection as required. This must include the installation of sensors on signal poles or mast arms, controller interface modules, power and surge protection panels, cabling and all associated equipment, software, serial and Ethernet communication ports, and connectors and hardware required to set up and operate. Ensure that the supplier of the RVDS provides competent onsite support representative during installation to supervise installation and testing of the RVDS. Ensure the radar sensor locations are optimal for system operation and operate as required. Maintain safe construction practices during equipment installation.

Ensure installation and configuration of software on Department computers are included with the RVDS.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

3.2. **Mechanical Components**. Ensure that all fasteners, including bolts, nuts, and washers with a diameter less than 5/8 in. are Type 316 or Type 304 stainless steel and meet ASTM F593 and ASTM F594 for corrosion

resistance. Ensure that all bolts and nuts 5/8 in. and more in diameter are galvanized and meet ASTM A307. Separate dissimilar metals with an inert dielectric material.

3.3. **Wiring**. Install all wiring and electrical work supplying power to the equipment in a neat, skillful manner. Supply and install all wiring necessary to interconnect RVDS sensors to the traffic signal cabinet to complete the work. Furnish and install any additional required wiring at no additional cost to the Department.

Wiring must be cut to proper length before installation. Provide cable slack for ease of removal and replacement. All cable slack must be neatly laced with lacing or straps in the bottom of the cabinet. Ensure cables are secured with clamps.

3.4. **Grounding**. Ensure all RVDS components, cabinets, and supports are grounded in accordance with the NEC and manufacturer recommendations.

3.5. **Relocation of RVDS Field Equipment**. Perform the relocation in strict conformance with the requirements herein and as shown on the plans. Completion of the work must present a neat, skillful, and finished appearance. Maintain safe construction practices during relocation.

Inspect the existing RVDS field equipment with a representative from the Department and document any evidence of damage before removal. Conduct a pre-removal test in accordance with the testing requirements contained in this Specification to document operational functionality. Remove and deliver equipment that fails inspection to the Department.

Before removal of existing RVDS field equipment, disconnect and isolate the power cables from the electric power supply and disconnect all communication cabling from the equipment located inside the cabinet. Coil and store power and communication cabling inside the cabinet until relocation. Remove existing RVDS field equipment as shown on the plans only when authorized.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

Make all arrangements for connection to the power supply and communication source, including any permits required for the work under the Contract. Provide wire for the power connection at least the minimum size indicated on the plans and insulated for 600 V. Meet the NEC.

3.6. **Removal of RVDS Field Equipment**. Perform the removal in strict conformance with the requirements herein and as shown on the plans. Completion of the work must present a neat, skillful, and finished appearance. Maintain safe construction practices during removal.

Disconnect and isolate any existing electrical supply before removal of existing field equipment.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

All materials not designated for reuse or retention by the Department will become the property of the Contractor and be removed from the project site at the Contractor's expense. Deliver items to be retained by the Department to a location shown on the plans or General Notes. The Contractor is fully responsible for any removed equipment until released.

3.7. **Documentation**. Provide electronic copies of operation and maintenance manuals, along with a copy of all product documentation on electronic media. Include the following documentation.

- Complete and accurate schematic diagrams
- Complete installation procedures
- Manufacturer's specifications (functional, electrical, mechanical, and environmental)
- Complete maintenance and troubleshooting procedures

- Explanation of product operation
- Warranty as specified in Section 3.8., "Warranty"

The RVDS must pass testing to ensure functionality and reliability before delivery. This includes functional tests for internal subassemblies, a 24-hr. minimum unit level burn-in test, and a unit functionality test. Provide test results and supporting documentation, including serial number tested, for each RVDS. If requested, manufacturing data per serial number must be provided for each RVDS.

Unless deemed unnecessary by the Engineer or TRF-TM, provide certification from an independent laboratory demonstrating compliance with NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

Unless deemed unnecessary by the Engineer or TRF-TM, provide third-party enclosure test results demonstrating the sensor enclosure meets Type 4X criteria.

Unless deemed unnecessary by the Engineer or TRF-TM, provide evidence of RVDS manufacturer's quality assurance program, including proof of RVDS manufacturer ISO 9001 certification or other quality management system programs for manufacturing RVDS.

3.8. **Warranty**. Ensure that the detection system has a manufacturer's warranty covering defects for at least 5 yr. from the date of final acceptance. In addition to the terms required by TO-8000, Article 8, ensure the warranty includes providing replacements, within 10 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department.

3.9. **Training and Support**. Provide manufacturer-approved end user training to the Department and their representatives. Training must include instruction in system configuration, operation, and maintenance. Provide training for at least 10 Department-designated representatives up to 8 hr., including class and field training.

Ensure that the detection system manufacturer will provide product support for at least 5 yr. from the date of final acceptance.

4. TESTING

Perform the following tests on equipment and systems unless otherwise shown on the plans. The Department may witness all the tests.

4.1. **Stand-Alone Test**. Conduct a stand-alone test for each unit after installation. The test must exercise all stand-alone (non-network) functional operations and verify that RVDS is placing detector contact closure to assigned detector channels in the traffic signal controller assembly. Notify the Engineer 5 working days before conducting this test.

4.2. **Consequences of Test Failure**. If a unit fails a test, provide a new unit, and then repeat the test until successfully completed.

4.3. **Final Acceptance Test**. Conduct a final acceptance test on the complete functional system. Demonstrate all control, monitoring, and communication requirements and operate the system for 30 days. The Engineer will furnish a letter of approval stating the first day of the final acceptance test.

4.4. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a consecutive 30-day period free of defects is achieved.

4.5. **Relocation**.

4.5.1. **Pre-Test**. Provide five copies of the test procedures, including tests of the basic functionality of the unit, and blank data forms to the Engineer for review and comment as part of material documentation requirements. Functionality tests may include, but not be limited to, physical inspection of the unit and cable assemblies. Include the sequence of the tests in the procedures along with acceptance thresholds. The Engineer will comment on and approve or reject test procedures within 30 days after Contractor submittal of test procedures. Rejected test procedures must be resubmitted within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Conduct basic functionality testing before removal of RVDS field equipment. Test all functional operations of the equipment in the presence of representatives of the Contractor and the Department. Ensure that both representatives sign the test report indicating that the equipment has passed or failed each function. Once removed, the equipment will become the responsibility of the Contractor until accepted by the Department. Compare test data prior to removal and after installation. The performance test results after relocation must be equal to or better than the test results before removal. Repair or replace the failing components within the systemso that the system can pass the performance test after relocation.

4.5.2. **Post-Test**. Testing of the RVDS field equipment is to relieve the Contractor of system maintenance. The Contractor will be relieved of the responsibility for system maintenance in accordance with Item 7, “Legal Relations and Responsibilities,” after a successful test period. The Contractor will not be required to pay for electrical energy consumed by the system.

After all existing RVDS field equipment has been installed, conduct approved continuity, stand-alone, and performance tests. Furnish test data forms containing the sequence of tests, including all the data taken as well as quantitative results for all tests. Submit the test data forms to the Engineer at least 30 days before the day the tests are to begin. Obtain approval of test procedures before submission of equipment for tests. Send at least one copy of the data forms to the Engineer.

Conduct an approved stand-alone test of the equipment installation at the field sites. At minimum, exercise all stand-alone (non-network) functional operations of the field equipment with all the equipment installed per the plans as directed. Complete the approved data forms with test results and submit them to the Engineer for review and either acceptance or rejection of equipment. Give at least 30 working days’ notice before all tests to allow the Engineer or their representative to observe each test.

The Department must conduct approved RVDS field equipment system tests on the field equipment with the central equipment. The tests must, at minimum, exercise all remote-control functions and display the return status codes from the controller.

If any unit fails to pass a test, prepare and deliver a report to the Engineer. Describe the nature of the failure and the corrective action needed. If the failure is the result of improper installation or damage during reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the Contract period.

5. MEASUREMENT

New RVDSs furnished and installed by the Contractor will be measured by each approach to the signalized intersection.

RVDSs furnished by the Department for Contractor installation only will be measured by each approach to the signalized intersection.

Existing RVDSs to be relocated or removed will be measured by each sensor relocated or removed.

6. PAYMENT

6.1. **Furnish and Install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit bid price for "RVDS (Presence Detection Only)," "RVDS (Advance Detection Only)," and "RVDS (Presence and Advance Detection)."

This price is full compensation for furnishing, installing, configuring, integrating, and testing the completed installation, including RVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware. This price also fully compensates for all labor, tools, equipment, any required equipment modifications for electrical service, documentation, testing, training, software, warranty, and incidentals necessary to complete the work.

6.2. **Install Only**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "RVDS (Presence Detection Only) (Install Only)," "RVDS (Advance Detection Only) (Install Only)," and "RVDS (Presence and Advance Detection) (Install Only)."

This price is full compensation for making fully operational an RVDS furnished by the Department; for installing, configuring, integrating, and testing the completed installation, including RVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware; and for all labor, tools, equipment, any required equipment modifications for electrical service, documentation, testing, training, software, and incidentals necessary to complete the work.

6.3. **Relocate**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Relocate RVDS." This price is full compensation for relocating and making fully operational existing RVDS field equipment; for furnishing and installing additional cables or connectors; for testing, delivery, and storage of components designated for salvage or reuse; and for all testing, training, software, equipment, any required equipment modifications for electrical service, labor, materials, tools, and incidentals necessary to complete the work.

6.4. **Remove**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Remove RVDS." This price is full compensation for removing existing RVDS equipment; for removal of cables and connectors; for testing, delivery, and storage of components designated for salvage; and for all testing, training, software, equipment, labor, materials, tools, and incidentals necessary to complete the work.

6.5. **Communication Cable**. All communication cables necessary to make the RVDS fully operational will be subsidiary to this Item.

Special Specification 6026
Preventive Maintenance of Solar Powered Roadside Flashing Beacon Assemblies

1. DESCRIPTION

Check and tighten hardware; clean terminals of all 12-VDC batteries and test charge level of all 12-VDC batteries; and advise if battery needs replacement. Clean all solar panels.

Record and inform the Engineer of damage observed and repairs performed.

2. LICENSES AND CERTIFICATION

Provide personnel with electrical licensing and electrical certification in accordance with Item 7, "Legal Relations and Responsibilities," and all applicable Special Provisions to Item 7, "Legal Relations and Responsibilities."

3. MATERIALS

Furnish materials in accordance with the following:

- Item 620, "Electrical Conductors"
- Item 628, "Electrical Services"
- Item 636, "Signs"
- Item 682, "Vehicle and Pedestrian Signal Heads"
- Item 685, "Roadside Flashing Beacon Assemblies."

Materials must conform to the Contract-referenced standard specifications, special provisions, plans, and standards. Furnish all materials required to repair breaks or shorts in electrical conductors and cables.

Return removed material deemed salvageable upon completion of the work and before final payment at the location shown on the plans or as directed. Dispose of material deemed unsalvageable in conformance with federal, state, and local regulations.

4. EQUIPMENT

Furnish equipment, tools, machinery, and labor necessary for completion of the work described. Required equipment includes, but is not limited to, an aerial device capable of reaching overhead work, arrow board, truck-mounted attenuator, items related to barricade and construction standard sheets, trenching machine, boring machine, underground conductor detectors, underground fault detectors, splicing tools, etc. Use only equipment, tools, and machinery in good repair and operating condition. Immediately repair or replace any equipment that may affect safety or quality of work, as directed.

5. WORK METHODS

Conform to the most current version of the National Electrical Code (NEC), local utility requirements, the requirements of this Item, and the pertinent requirements of the following Items:

- Item 620, "Electrical Conductors"
- Item 628, "Electrical Services"
- Item 636, "Signs"

- Item 682, "Vehicle and Pedestrian Signal Heads"
- Item 684, "Traffic Signal Cables"
- Item 685, "Roadside Flashing Beacon Assemblies."

Work orders will be issued to the Contractor detailing work locations and type of work.

Worksheets will be provided to the Contractor to document all devices inspected, cleaned, or repaired and to report other deficiencies that require attention. Submit completed worksheets to the Engineer. No payment will be made to the Contractor for any locations where a worksheet is not submitted.

5.1. **Preventive Maintenance**. Perform work for each solar powered roadside flashing beacon assembly installation as listed below.

5.1.1. **Solar Powered Roadside Flashing Beacon Assemblies**. Check and tighten hardware; clean terminals of all 12-VDC batteries and test charge level of all 12-VDC batteries; and advise if battery needs replacement. Clean all solar panels.

5.1.2. **Cables**. Inspect cable (tray, heliax, coaxial, and signal) for damage or deterioration, proper attachment, excess slack, and tangled cables.

5.1.3. **Signal Heads**. Inspect signal head lenses, reflectors, visors, and back plates for visibility or damage. Clean lenses and appropriate components with soft cloth, soap, and water. Relamp each signal section head when existing lamp is observed to be more than 50% inoperable and as directed. Ensure correct alignment of signal heads as directed. Install signal back plates as directed.

5.1.4. **Electrical Services**. Clean service enclosure and check operation of photocell, condition of breakers, and field wiring connection.

5.1.5. **Signs**. Clean signs with an approved cleaning solution. Document damaged signs.

5.1.6 **Controller Cabinet**. Perform the following maintenance services to the controller cabinet.

- lubricate hinges and lock with graphite spray;
- check weatherproof seal (gasket) and report deficiencies to the Engineer;
- check anchor bolts and tighten as necessary;
- check for water accumulation and duct sealant and report deficiencies to the Engineer;
- check ground rod and entire grounding system and report deficiencies to the Engineer;
- check ground fault receptacle and report deficiencies to the Engineer;
- clean all shelves in cabinet with soft, damp cloth and remove any foreign residue from shelves;
- measure voltages at service inputs in cabinet;
- vacuum cabinet interior;
- remove all graffiti and unauthorized signs or stickers from controller cabinets and signal poles;
- apply pesticides as directed;
- clean terminals of all 12-V batteries; and
- test charge level of all 12-V batteries and advise if battery needs replacement.

5.2. **Signal Heads**. Replace complete traffic signal head, brackets, and back plates as directed. Undamaged LED signal sections or material deemed salvageable will remain the property of the Department and must be delivered to the locations as shown on the plans.

Ensure correct alignment of signal heads as directed.

5.3. **LED Signal Lamp**. Install, replace, or remove LED lamp in accordance with Item 682, "Vehicle and Pedestrian Signal Heads," as shown on the plans or as directed.

5.4. **Splices**. Splices will not be permitted except as shown on the plans unless the Engineer approves each individual splice. Ensure allowed splices are water-tight. Insulate splices using heavy duty heat shrinkable tubing with factory applied sealant.

5.5. **Roadside Flashing Beacon Related Signs**. Install, repair, replace, remove, or modify small post-mounted signs.

5.6. **Tunnel Visor**. Install or replace tunnel visor.

6. MEASUREMENT

6.1. **Preventive Maintenance**. This Item will be measured by each roadside flashing beacon location which are not part of the traffic signal or overhead flashing beacon, regardless of the number of signal heads included at the installation.

6.2. **Back Plate**. This Item will be measured by each back plate replaced.

6.3. **Signal Heads**. This Item will be measured by each traffic signal head replaced.

6.4. **Removal, Replacement, or Installation of LED Signal Lamp**. This Item will be measured by each LED Signal lamp unit removed, replaced, or installed.

6.5. **Splices**. This Item will be measured by each cable splice regardless of the number of conductors in a cable.

6.6. **Fuse**. This Item will be measured by each fuse replaced.

6.7. **Breakaway Fuse Holder**. This Item will be measured by each breakaway fuse holder replaced.

6.8. **Installation, Removal, and Replacement of Roadside Flashing Beacon Related Sign Assemblies**. This Item will be measured by each sign assembly installed, removed, or replaced.

6.9. **Installation or Replacement of Tunnel Visor**. This Item will be measured by each tunnel visor installed or replaced.

6.10. **Replacement of 12-VDC Batteries**. This Item will be measured by each 12-VDC battery replaced for solar powered roadside flashing beacon assemblies or battery backup unit.

7. PAYMENT

The work performed and materials furnished, in accordance with this Item and measured as provided under "Measurement," will be paid for at the unit price bid for "Preventive Maintenance," "Replace Back Plate," of the type specified, "Replace RSFB Signal Head," "Replace Fuse," "Replace Breakaway Fuse Holder," "Replace LED Traffic Signal Lamp Unit," of the type specified, "Install RSFB Related Sign Assembly," "Remove RSFB Related Sign Assembly," "Replace RSFB Related Sign Assembly," "Install Tunnel Visor," "Replace Tunnel Visor," "Replace 12-VDC Battery," and "Cable Splice." This price is full compensation for inspections, repairs, and replacement and for furnishing labor, tools, equipment, and incidentals.

Special Specification 6029
Preventive Maintenance of Traffic Signals

1. DESCRIPTION

Replace damaged signal parts, signal heads, and illumination parts. Repair signal assemblies and maintain controller cabinets. Clean camera lenses and inspect signal installations at intersections and interchanges.

Record and inform the Engineer of damage observed and repairs performed.

2. LICENSES AND CERTIFICATION

Provide personnel with electrical licensing and electrical certification in accordance with Item 7, "Legal Relations and Responsibilities," and all applicable Special Provisions to Item 7.

3. MATERIALS

Furnish materials in accordance with the following.

- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Item 624, "Ground Boxes"
- Item 625, "Zinc-Coated Steel Wire Strand"
- Item 628, "Electrical Services"
- Item 636, "Signs"
- Item 682, "Vehicle and Pedestrian Signal Heads"
- Item 684, "Traffic Signal Cables"
- Item 685, "Roadside Flashing Beacon Assemblies"
- Item 686, "Traffic Signal Pole Assemblies (Steel)"
- Item 687, "Pedestrian Pole Assemblies"
- Item 688, "Pedestrian Detectors and Vehicle Loop Detectors."

Materials must conform to the Contract-referenced Standard Specifications, Special Provisions, plans, and standards. Furnish all materials required to repair breaks or shorts in electrical conductors and cables, including, but not limited to, all concrete, wire mesh, conductors, and pipe casing.

Return removed material deemed salvageable upon completion of the work and before final payment at the location shown on the plans or as directed. Dispose of material deemed unsalvageable in conformance with federal, state, and local regulations.

When performing maintenance on luminaires, verify whether fixtures are covered under the manufacturer's warranty. If warranty applies, coordinate with the Department and follow any necessary procedures to have the manufacturer replace or repair fixtures.

4. EQUIPMENT

Furnish equipment, tools, machinery, and labor necessary for completion of the work described. Required equipment including, but not limiting to, an aerial device capable of reaching overhead work, arrow board, truck-mounted attenuator, items related to barricade and construction standard sheets, trenching machine, boring machine, underground conductor detectors, underground fault detectors, and

splicing tools. Use only equipment, tools, and machinery in good, operating condition. Immediately repair or replace any equipment that may affect safety or quality of work as directed.

5. WORK METHODS

Conform to the NEC, local utility requirements, the requirements of this Item, and the pertinent requirements of the items specified in Article 3 "Materials."

Work orders will be issued to the Contractor detailing work locations and type of work.

Worksheets will be provided to the Contractor to document all devices inspected, cleaned, repaired, and to report other deficiencies that require attention. Submit completed worksheets to the Engineer. No payment will be made to the Contractor for any locations where a worksheet is not submitted.

5.1. **Preventive Maintenance**. Perform the following work for each traffic signal installation.

5.1.1. **Cables**. Inspect cable (tray, heliax, coaxial, and signal) for damage or deterioration, proper attachment, excess slack, and tangled cables. Re-lash, tighten, and straighten span cables as necessary. Document span and signal cables that show signs of damage or deterioration. Submit written notification to the Engineer of necessary repairs.

5.1.2. **Pole and Mast Arms**. Inspect pole bases, foundations, and mast arms. Check welds on pole for fatigue or cracking. Tighten bolts as needed. Remove debris from pole bases. Remove all unnecessary signs. Replace missing hand-hole covers.

5.1.3. **Span Wire**. Inspect steel wire (span, tether, and messenger), brackets, set screws, clamps and fittings, and service sleeves. Tighten, align, or replace as directed. Check clearance between roadway and signal heads and adjust to 18 ft. or as directed.

5.1.4. **Conduit**. Inspect conduit affixed to poles and reattach as necessary. Ensure conduit ends are sealed with an approved sealant.

5.1.5. **Pedestrian Push Buttons**. Inspect pedestrian push buttons for proper operation and report damage or malfunctions to the Engineer. Replace as directed.

5.1.6. **Ground Boxes**. Inspect ground boxes, clean out debris, and replace or install missing lid bolts. Seal conduit ends as necessary using approved sealant. If necessary, backfill with gravel to ensure compliance with Item 624.

5.1.7. **Illumination**. Test Illumination circuits. Notify Engineer of test results and recommend repairs as appropriate.

5.1.8. **Signal/Pedestrian Heads**. Inspect signal and pedestrian head lenses, reflectors, visors, and back plates for visibility or damage. Clean lenses and appropriate components with soft cloth, soap, and water. Re-lamp each signal section and pedestrian head when existing lamp is observed to be more than 50% inoperable, and as directed. Ensure correct alignment of signal heads as directed. Install signal back plates as directed.

Pass the wiring to each signal head from the mast arm through the signal head bracing or attachment hardwire to the signal head. Exposed cable or wiring is not permitted.

5.1.9. **Detector Loops**. Inspect all detector loops in the roadway surface for exposed wires or deterioration. Seal exposed wires using an approved sealant.

5.1.10. **Electrical Services**. Clean service enclosure, and check operation of photocell, condition of breakers, and

field wiring connection.

5.1.11. **Signs**. Clean signs using an approved cleaning solution. Document damaged signs.

5.1.12. **Radar Detection**. Clean surface of radar unit and tighten all mounting brackets. Re-aim sensor as directed. Inspect junction boxes and cable terminations for proper connection if the sensor has failed.

5.1.13. **Video Imaging Vehicle Detection System (VIVDS)**. When video detection cameras are present at the intersection, clean camera lenses with a soft cloth that has been dampened with water. Tighten any loose brackets. Check camera connections, and report if loose or corroded.

5.1.14. **Controller Cabinet**. Perform the following maintenance services to the controller cabinet.

- Clean filters.
- Replace filters.
- Lubricate hinges, and lock with graphite spray.
- Check weatherproof seal (gasket), and report deficiencies to the Engineer.
- Check anchor bolts and tighten as necessary.
- Check for water accumulation and duct sealant, and report deficiencies to the Engineer.
- Check ground rod and entire grounding system, and report deficiencies to the Engineer.
- Check wiring schematics and records, and report deficiencies to the Engineer.
- Check operation of fan and heater, and report deficiencies to the Engineer.
- Check ground fault receptacle, and report deficiencies to the Engineer.
- Clean all shelves in cabinet with soft, damp cloth, and remove any foreign residue from shelves.
- Measure voltages at service inputs in cabinet.
- Check and record any current being drawn.
- Vacuum cabinet interior.
- Remove all graffiti and unauthorized signs or stickers from controller cabinets and signal poles.
- Replace cabinet lamp as necessary.
- Apply pesticides as directed.
- Test Malfunction Management Unit and deliver printed report to the Engineer or their representative.
- Clean terminals of all 12-V batteries.
- Test charge level of all 12-V batteries and advise whether battery needs replacement.

5.1.15. **Solar-Powered Roadside Flashing Beacon Assemblies**. Check and tighten hardware, clean terminals of all 12-volts of direct current (VDC) batteries, test charge level of all 12-VDC batteries, and advise whether battery needs replacement. Clean all solar panels.

5.2. **Illumination**. Replace as necessary any lamps, photoelectric cells, and heads.

5.3. **Pedestrian Push Buttons**. Replace push buttons. Push buttons must meet the requirements of the Americans with Disabilities Act.

5.4. **Signal Heads and Countdown Pedestrian Heads**. Replace complete traffic or countdown pedestrian signal head, brackets, and back plates as directed. Undamaged light-emitting diode (LED) signal sections or material deemed salvageable will remain the property of the Department and must be delivered to the locations as shown on the plans.

Pass the wiring to each signal head from the mast arm through the signal head bracing or attachment hardwire to the signal head. Exposed cable or wiring is not permitted.

Ensure correct alignment of signal heads as directed.

5.5. **Light-Emitting Diode (LED) Signal Lamp**. Install, replace, or remove LED lamp in accordance with Item 682 as shown on the plans or as directed.

5.6. **Splices**. Splices will not be permitted except as shown on the plans, unless the Engineer approves each splice. Ensure allowed splices are watertight. Insulate splices using heavy-duty, heat-shrinkable tubing with factory-applied sealant.

5.7. **Signal-Related Signs**. Install, repair, replace, remove, or modify small post-mounted or overhead signs.

5.8. **Tunnel Visor**. Install or replace tunnel visor.

6. MEASUREMENT

This Item will be measured as follows.

6.1. **Preventive Maintenance**. This Item will be measured by each traffic signal or beacon location regardless of the number of signal heads included at the installation. Any roadside flashers (advance-warning) pertinent to a given signal or beacon location are considered part of the main signal or beacon installation, and no additional payment will be made. For this Item, a diamond intersection will be considered as two installations (locations) if it has two controller cabinets.

6.2. **Back Plate.** By each back plate replaced.

6.3. **Photoelectric Cell**. By each photoelectric cell replaced.

6.4. **Illumination Head**. By each illumination head replaced.

6.5. **Pedestrian Push Buttons**. By each pedestrian push button replaced.

6.6. **Signal Heads and Countdown Pedestrian Heads**. By each traffic or countdown pedestrian signal head replaced.

6.7. **Removal, Replacement, or Installation of Light-Emitting Diode (LED) Signal Lamp**. By each LED signal lamp unit removed, replaced, or installed.

6.8. **Splices**. By each splice, regardless of the number of conductors in a cable.

6.9. **Replace Span Cable**. By the foot of span cable replaced.

6.10. **Fuse**. By each fuse replaced.

6.11. **Breakaway Fuse Holder**. By each breakaway fuse holder replaced.

6.12. **Illumination Lamp**. By each illumination lamp replaced.

6.13. **Removal of Signal-Related Signs**. By each sign assembly removed.

6.14. **Replacement or Installation of Signal-Related Signs**. By the square foot of sign assembly replaced or installed.

6.15. **Installation or Replacement of Tunnel Visor**. By each tunnel visor installed or replaced.

6.16. **Replacement of 12-Volts of Direct Current (VDC) Batteries**. By each 12-VDC battery replaced for solar-powered roadside flashing beacon assemblies or battery backup unit.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Preventive Maintenance," "Illumination Head (Replace)," "Illumination Lamp (Replace)," "Sign Assembly (Remove)," "Sign Assembly (Replace)," "Sign Assembly (Install)," "Tunnel Visor (Install)," "Tunnel Visor (Replace)," "Photo Cell (Replace)," "Back Plate (Replace)," of the type specified, "Pedestrian Push Button (Replace)," "Fuse (Replace)," "Breakaway Fuse Holder (Replace)," "Traffic Signal Head (Replace), of the type specified," "Countdown Pedestrian Head (Install), of the type specified," "LED Signal Lamp (Replace)," of the type specified, "Solder and Weatherproof Wire Splice," "12-VDC Battery for Solar Powered Roadside Flashing Beacon Assembly or battery backup unit (Replace)," and "Span Cable (Replace)." This price is full compensation for inspections, repairs, and replacement, and for furnishing labor, tools, equipment, and incidentals.