

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 1/25/2022

Control	0260-01-058
Project	C 260-1-58
Highway	US 67
County	JOHNSON

Ladies/Gentlemen:

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

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

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

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

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

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

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: C 260-1-58

CONTROL: 0260-01-058

COUNTY: JOHNSON

LETTING: 02/04/2022

REFERENCE NO: 0121

PROPOSAL ADDENDUMS

PROPOSAL COVER

BID INSERTS (SH. NO.:

X GENERAL NOTES (SH. NO.: A, B, C thru N

SPEC LIST (SH. NO.:

SPECIAL PROVISIONS:

ADDED:

DELETED:

SPECIAL SPECIFICATIONS:

ADDED:

DELETED:

X OTHER: See Changes Below

DESCRIPTION OF ABOVE CHANGES

(INCLUDING PLANS SHEET CHANGES)

GENERAL NOTES: The general notes are replaced in their entirety.

PLAN SHEETS: Sheets 3, 3A, 3B, 3C, 3D, 3E and 3F revised due to changes above.

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GENERAL NOTES:

Specification Data

Basis of Estimate

Item	Description	Rate	Unit
300	CRS-2 or CRS-2H (Surface Trt)	0.20 gal/SY * **	Gal
346	Stone-Matrix Asphalt	115 lbs/SY/in	Ton
3002	Membrane Underseal	0.25 gal/SY	Gal

* Based On 50% Asphalt Residue.

** Non-Pay, for Contractor's Information Only.

Special Notes:

Contractor Responsibilities

Contractor shall field verify all existing materials prior to beginning work on pertinent bid items.

Electronic Files

All files in the FTP site are subject to the License Agreement Shown on the FTP site.

Electronic files containing answered pre-letting questions and other project related design information will be placed in the following FTP site periodically.

Check this site for new information. Notices of new postings will not be sent out by the Engineer.

The data located in these files is for non-construction purposes only and can be found at TxDOT's public FTP site at <https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting Responses/>.

Access is read-only.

All files in the FTP site are subject to the License Agreement shown on the FTP site.

To obtain a copy of the project plans free of charge, submit a request from the following site:

<http://www.txdot.gov/business/letting-bids/plans-online.html>

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

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Area Engineer: Janet Crawford
Area Engineer Assistant: Peter Ross
Design Manager: Alfred Luera

AE Email: janet.crawford@txdot.gov
AE Assistant Email: peter.ross@txdot.gov
Design Manager Email: alfredo.luera@txdot.gov

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All contractor questions will be reviewed by the Engineer. Once a response is developed, it will be posted to TxDOT’s Public FTP at the following Address:
<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting Responses/>

All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

Test Data

Calculating, Recording and Reporting Test Data - Use appropriate TxDOT Excel templates to calculate and record all test data. These forms are available on the TxDOT website at: <http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/forms/site-manager.html> under the “Site Manager Forms” heading. Submit test results by email or Dropbox within 24 hours of test completion.

Lane Closures

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

Peak Hours		Off-Peak Hours	
6 to 9 AM Monday through Friday	3 to 7 PM Monday through Friday	9 AM to 3 PM and 7 PM to 6 AM Monday through Friday	All day Saturday and Sunday

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, will be performed at night between the hours of 9 PM and 6 AM.

Modifications to Lane Closure / Work Restrictions:

Submit a request in writing for approval by the Engineer a minimum of 10 days in advance of implementing a change to lane closure restrictions.

When deemed necessary, the Engineer will lengthen, shorten, or otherwise modify lane closure restrictions as traffic conditions warrant.

When deemed necessary, the Engineer will modify the list of major events when new events develop, existing events are rescheduled, or when warranted.

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Special Events/ Special Situations will be handled on a case by case basis. No work restricting lane closures is allowed from 3 PM a day before to 9 AM the day after the Special Event or Special Situation.

Nighttime Work.

Perform no nighttime work on this project except when directed or allowed to do so by the Engineer in writing.

If nighttime work is allowed/required, provide Multi-Directional Lighting Device with the following quality requirements:

Provide a 2000 watt (minimum) SIROCCO lighting balloon, Airstar lighting or equivalent.

It is the intent of the MDLD lighting to supplement the Portable Road Light and Power Unit used to illuminate work hours.

Provide MDLD units which can self-inflate and capable of illuminating approximately 15,000 sq ft.

Provide MDLD units of 1.1 meter horizontal diameter and capable of withstanding 60 mph winds when fully inflated and operating.

Provide MDLD units with two (2) 1,000 watt halogen bulbs recommended by the manufacture.

Prevention of Migratory Bird Nesting

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season. Otherwise, avoid nests containing migratory birds and perform no work in the nesting areas until the young birds have fledged.

Structures

Do not begin bridge and culvert construction operations until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building, scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines

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the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.

2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

Cross Slopes

In those instances where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

Driveways

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Remove the grass from the crown of shoulders or pavement edges by blading or other approved methods. Payment for this work will not be made directly but shall be considered subsidiary to the various items of the contract.

Drainage

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.

Item 4. Scope of Work

Reimbursement for project overhead will not be considered until project completion has extended beyond the original Contract Time.

Item 5. Control of the Work

Perform construction surveying to record and re-establish the road profile, cross slopes and super-elevations in accordance with Article 5.9.3.

Item 7. Legal Relations and Responsibilities

No significant traffic generator events identified.

This contract requires work to be done on railroad property. Cooperate with the railroads and comply with all of their requirements including obtaining any required training before performing work on railroad property.

Submit to the Engineer, an original railroad liability insurance policy.

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Do not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (USACE) permit area that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. “Associated” as defined here means materials are delivered to or from the PSL. The permit area includes all waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. The contractor shall be responsible for any and all consultations with the USACE regarding activities, including project specific locations (PSLs) that have not been previously evaluated by the USACE. Provide the Department with a copy of all consultation(s) or approval(s) from the USACE prior to initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self determination has been made that the PSL is non jurisdictional or proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The contractor is solely responsible for documenting any determination(s) that their activities do not affect a USACE permit area. Maintain copies of their determination(s) for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, prior to any excavation hauled from or embankment hauled into a USACE permit area by either (1) or (2) below.

- (1) Restricted Use of Materials for Previously Evaluated Permit Areas.** Document both the project specific location (PSL) and its authorization. Maintain copies for review by the Department or any regulatory agency when an area within the project limits has been evaluated by the USACE as part of the permit process for this project:

 - a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in Item 110 is used for permanent or temporary fill (Item 132, Embankment) within a USACE permit area;
 - b. Suitable embankment (Item 132) from within the USACE permit area is used as fill within a USACE evaluated area; and,
 - c. Unsuitable excavation or excess excavation [“Waste”] (Item 110) that is disposed of at a location approved by the Engineer within a USACE evaluated area.
- (2) Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of all USACE coordination or approval(s) prior to initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites:

 - a. Item 132, Embankment, used for temporary or permanent fill within a USACE permit area; and,
 - b. Unsuitable excavation or excess excavation [“Waste”] (Item 110, Excavation) that is disposed of outside a USACE evaluated area.

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The total area disturbed for this project is 0 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer and to the local government that operates a separate storm sewer system.

The following Holiday/Event lane closure restriction requirements apply to this project: No work that restricts or interferes with traffic shall be allowed between 3 PM on the day preceding a Holiday or Event and 9 AM on the day after the Holiday or Event.

Holiday Lane Closure Restrictions

New Year’s Eve and New Year’s Day 3 PM December 30 through 9 AM January 2
(December 31 through January 1)

Easter Holiday Weekend (Friday through Sunday) 3PM Thursday through 9 AM Monday

Memorial Day Weekend (Friday through Monday) 3 PM Thursday through 9 AM Tuesday

Independence Day (July 3 through July 5) 3 PM July 2 through 9 AM July 6

Labor Day Weekend (Friday through Monday) 3 PM Thursday through 9 AM Tuesday

Thanksgiving Holiday (Wednesday through Sunday) 3 PM Tuesday through 9 AM Monday

Plan work schedules around the appropriate dates above to ensure productive work is performed without lane closures.

Item 8. Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.1.1 Five-Day Workweek.

The road-user cost liquidated damages is \$3,196 per day.

Item 110. Excavation

Review proposed waste sites to determine if any site is located in a "Base Floodplain" or "Floodway" as defined by the Federal Emergency Management Agency (FEMA).

If waste material from this project is placed in a base floodplain as defined by FEMA, a permit will have to be obtained from the local community responsible for enforcing National Flood Insurance Program (NFIP) regulations. The Contractor is responsible for ensuring that the owner of the property receiving the waste has obtained the necessary permit.

Item 132. Embankment

Provide Type B embankment material with a Plasticity Index (PI) no higher than 35.

Furnish test results per Test Procedures Tex-104, 105, and 106-E (PIs), Tex-113 or 114-E (M-D Curves), and Tex-145 and/or Tex-146-E (Sulfates) for each material sample provided by the Engineer. Perform field density tests (Tex-115-E, Part I) at a frequency for each worked section to produce passing results prior to testing by the Engineer per Tex-115-E, Part I.

Item 134. Backfilling Pavement Edge

Backfill the pavement edge with salvaged asphaltic pavement from RAP, planning, or other material specified by the Engineer. Salvaged material must pass through a 2 in sieve. Place salvaged material as shown on the plans and treat with CRS-2 or CRS-2H (Surface Trt) emulsified asphalt at the rate of 0.20 gal/SY. Surface treat will not be paid for separately and is subsidiary to Item 134.

Item 301. Asphalt Antistripping Agent

Furnish a liquid antistripping agent unless directed.

Item 346. Stone-Matrix Asphalt (SMA)

Provide aggregate with a Surface Aggregate Classification (SAC) A for the travel lanes, ramps, and shoulders.

No blending of aggregate to meet SAC A will be allowed for surface mixes.

Natural (field) sands are not allowed.

For SMA, provide a PG76-28 for this mix.

For SMAR, provide a PG76-22 for this mix.

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Tack coat to be replaced with a membrane underseal and paid for with Item 3002-6001. The Engineer will set the rate at time of application.

Warm Mix Asphalt (WMA) is not permitted in any mix type on this project.

RAP and RAS are not permitted in any surface mixes on this project.

Use the Boil Test, Test Procedure Tex-530-C, and provide only mixes that produce zero percent (0%) stripping for design verification and during production.

Include the approved mix design number on each delivery ticket.

Use a Material Transfer Device (MTD) unless otherwise directed.

Stop production after Lot 1. Review all test data and confirm any changes with the Engineer. Do not start production and placement on subsequent Lots until approved by the Engineer.

Shoulders, crossovers, and other areas listed on the Plan sheets or as directed are not subject to in-place air void determination for this project.

Temporary detours are subject to in-place air void determination for this project.

Use Surface Test Type B for this project.

Ride quality is required on this project.

Item 354. Planing and Texturing Pavement

Contractor to contact the Johnson County Maintenance office for exact stockpile locations 48 hours prior to delivering the HMAC millings from the project. All remaining asphalt millings not accepted by TxDOT, will become the property of the contractor.

Intent is to remove all HMAC from existing concrete in one pass. Repair damaged concrete paving caused by Contractor's operations at the expense of the Contractor as directed by the Engineer.

Take precaution to avoid damage to existing bridge decks and bridge joints including but not limited to armor joints, header joints, relieve joints, etc.. Repair any damage to the bridge decks and/or joints as approved. This work will not be paid directly, but will be performed at the Contractor's expense.

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Item 416. Drilled Shaft Foundations

Contractor shall stake foundation as shown on plans. Engineer or Engineers designee will verify and approve staked locations before installing foundations. Calculate signal head clearance and report to the Engineer or Engineers designee.

Obtain Engineer's approval of location before installing foundation.

Item 502. Barricades, Signs, and Traffic Handling

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's 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.

Permanent signs may be installed when construction in an area is complete and they will not be in conflict with the traffic control plan for the remainder of the job.

Existing signs are to remain as long as they do not interfere with construction and they do not conflict with the traffic control plan.

Any sign not detailed in the plans but called for in the layout shall be as shown in the current "Standard Highway Sign Designs for Texas".

When traffic is obstructed, arrange warning devices in accordance with arrangements indicated in the latest edition of the "Texas Manual on Uniform Traffic Control Devices".

Cover or remove any work zone signs when work or condition referenced is not occurring.

Shadow vehicles equipped with Truck-Mounted Attenuators (TMA's) are required as shown on all Traffic Control Plan (TCP) Standards. Striping will be required on the back panel of truck mounted attenuators, and will be 8 inches of red and white stripes placed on an inverted "V" design. Sheeting will conform to departmental material Specification D-9-8300, Type "C".

In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for this project, provide **two (2)** additional shadow vehicle(s) with TMA. These will only be used when approved and authorized by the Engineer.

Therefore, **6** total shadow vehicles with TMA will be required for this type of work. The contractor will be responsible for determining if one or more of these operations will be on going at the same time determine the total number of TMAs needed for the project.

Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets. Provide access to all driveways during all phases of construction unless otherwise noted in the plans or as directed.

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All traffic control signs shall meet the latest version of the TMUTCD & Sign Crew Field Book requirements.

Item 585. Ride Quality for Pavement Surfaces

Use Surface Test Type B pay adjustment schedule 2 to evaluate ride quality of the travel lanes in accordance with Item 585, "Ride Quality for Pavement Surfaces."

Item 618. Conduit

After installing conduit and pulling conductor, leave a high tensile strength polyester fiber pull tape in the conduit for future use.

Item 620. Electrical Conductors

Clearly and permanently mark each illumination conductor installed in a signal pole as "ILLUMINATION" where it can be clearly seen from the hand hole. Use plastic zip ties with labeling plate to mark conductor.

Item 624. Ground Boxes

Slack conductors required by Standard Sheet ED(3)-14 will be subsidiary to Item 624. Concrete removal required for installation of ground boxes will be subsidiary to Item 624.

Item 628. Electrical Services

Before installing any electrical service, consult with the appropriate utility company before beginning work and verify all metering equipment requirements with the provider have been met. Provide a commercial grade, meter base with by-pass switch if required by the utility company.

Contractor shall obtain 911 address and EISD from electric utility company then contact the TXDOT Signal Shop to receive the Contract Request for Electrical Service Meter form to complete and return. TXDOT will make application to the Electric Utility Company for service, unless otherwise maintained by the following Cities: Arlington, Bedford, Colleyville, Euless, Fort Worth, Grand Prairie, Grapevine, Hurst, Mansfield, North Richland Hills, and Weatherford.

Item 644. Small Roadside Sign Supports and Assemblies

Supply shop drawings for all signs requiring fabrication in this contract. Fabricate and install signs only after approval of shop drawings by Fort Worth District Traffic Office.

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All signs shall meet the latest version of the TMUTCD & Sign Crew Field Book requirements.

Item 662. Work Zone Pavement Markings

Paint and Beads may be used for non-removable work zone pavement markings, if TxDOT approved materials are used.

When buttons are used for Removable Markings, on finished pavement surfaces, hot applied thermo adhesive must be used on concrete and bituminous adhesive on asphalt.

Buttons may not be used for stop bar markings or symbols.

Items 666. Reflectorized Pavement Markings

Collection of retro-reflectivity readings using a mobile retro-reflectometer is the required method. A TxDOT inspector must witness collection of all retro-reflectivity data.

Where replication of existing pavement markings and markers is required, no layout or plan may be provided. Prior to removal or demolition of pavement markings, record the beginning and ending locations of each type of pavement marking to be replaced. Use the recorded information to establish guides as required by **Article 666.4.1** of the Standard Specifications to re-create the original markings on the final pavement surface.

Use pavement marking standard drawings for pavement marking layout where existing pavement markings contradict the standard drawings in the plans.

Item 680. Installation of Highway Traffic Signals

Contractor shall contact Fort Worth District TMC 817-370-3661 prior to starting any signal modifications. Provide qualified personnel reachable by telephone and available to receive calls on a 24-hour basis. Respond to reported calls and make field assessment within 2 hours and make appropriate repairs within 24 hours.

Furnish and install all required materials, incidentals and equipment necessary for a fully operational traffic signal. The proposed equipment shall be compatible with the existing systems in the area.

Provide all illumination fixtures to be installed in this contract. Use 250W equivalent LED luminaires.

Where work requires the removal of power from the controller and cabinet assembly, erect temporary stop signs. Remove the stop signs after the traffic signals are in operation.

Deliver the cabinet, controller, accessories, and three complete sets of signal construction plans to the operating agency Signal Shop for testing. Notify the Signal Shop two working days prior to delivery of the cabinet.

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Wire the signal installation to operate in accordance with phase diagrams in these plans. Timing and phasing will be maintained by the operating agency. Deliver a copy of all revisions to the original timing and phasing plans to the TxDOT Signal Shop. One copy is to stay in the controller cabinet at the completion of the project and two supplied to the operating agency Signal Shop.

Project Inspection. Contact the TxDOT Signal Shop in advance of needed inspections. At the time of the final electrical inspection, the Inspector will create a discrepancy list to be corrected and repaired before signal is put into flash mode.

Signal Flash. Upon the satisfactory completion of repairs or corrections, contact the TxDOT Signal Shop at least one week prior to placing in flash. Schedule signal flash for Monday thru Thursday between 9:00 AM – 12:00 PM. Operate the signal in flash mode for 2-3 days prior to turning on to full actuation. The TxDOT signal inspector and technician must be present when the signals are placed in flash.

Signal Turn-On. Upon completion of the signal flash, schedule the date and time for the turn on of the traffic signal on Monday thru Thursday between 9:00 AM – 12:00 PM. Place the traffic signal into full operation only after all required striping is complete and all conflicting signing is removed. The TxDOT signal inspector and technician must be present when the signals are placed in full color operation.

Test Period. During the 30-day test period, the Contractor will be the first responders to all trouble calls. They will, in turn contact the TxDOT Signal Shop. Provide qualified personnel to respond to these and all trouble calls. Provide a local telephone number, not subject to frequent changes and available to receive calls on a 24-hour basis. Respond to reported calls within a maximum of two hours. Make appropriate repairs within 24 hours or at engineer's direction.

Place a logbook in each controller cabinet and keep a record of each trouble call reported. Notify the Engineer of each trouble call. The error log in the conflict monitor shall not be cleared during the thirty-day test period without approval. If it is necessary to replace equipment, such as a controller, in order to return the signals to normal operation, TxDOT will provide temporary replacement equipment until the original equipment is repaired and/or replaced at the Engineer's direction.

Removal. Salvageable signal controllers and related equipment shall remain the property of TXDOT. Deliver to the TXDOT Signal Shop at 2501 SW Loop 820, Fort Worth.

Item 682. Vehicle and Pedestrian Signal Heads

Vehicle signal heads shall be yellow aluminum with 5 inch, black, aluminum, vented back plates with reflective tape unless otherwise shown on plans.

Signal heads shall be installed level and plumb and aimed as directed. Cover all signal faces until placed in operation.

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All new mast arm mounted signal heads to be mounted horizontally.

Item 684. Traffic Signal Cables

Clearly and permanently mark each cable as shown on the plans (CABLE 1, etc.) at each signal head, ground box, terminal block, pole base and controller. Use plastic zip ties with labeling plate to mark cable.

Provide an extra 8' for each cable terminating in the controller cabinet and coil an extra 5' of cable in each ground box.

Terminate all electrical conductors from the controller (including spares) at the termination block in the signal pole hand hole.

Item 686. Traffic Signal Pole Assemblies (Steel)

Provide all signal poles from the same manufacturer.

Plug any unused openings in the mast arms or poles with an approved material.

Item 6001. Portable Changeable Message Signs

Provide portable changeable message signs and arrow panels with a photoelectric device to allow for automatic dimming of operations to approximately 50% of their normal brightness when ambient light drops to approximately five footcandles, and then increase back again for daytime operations.

Two (2) electronic portable changeable message sign unit(s) will be required. Individual or collective use of signs will be required by Engineer when deemed necessary to supplement the traffic control plan.

Program each sign in its permanent memory the following 15 messages:

1. Exit Closed Ahead
2. Use Other Routes
3. Right Lane
4. Left Lane
5. Closed Ahead
6. Two Lane
7. Detour Ahead
8. Thru Traffic
9. Prepare To Stop
10. Merging Traffic
11. Expect 15 Minute Delay
12. Max Speed ** MPH
13. Merge Right

14. Merge Left
15. No Exit Next ** Miles

Item 6185. Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)

In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for this project, provide **two (2)** additional shadow vehicle(s) with TMA. These will only be used when approved and authorized by the Engineer.

Therefore, **6** total shadow vehicles with TMA will be required for this type of work. Determine if one or more of these operations will be ongoing at the same time to determine the total number of TMAs needed for the project.