## SECTION 905 -- PROPOSAL (CONTINUED)

I (We) hereby certify by digital signature and electronic submission via Bid Express of the Section 905 proposal below, that all certifications, disclosures and affidavits incorporated herein are deemed to be duly executed in the aggregate, fully enforceable and binding upon delivery of the bid proposal. I (We) further acknowledge that this certification shall not extend to the bid bond or alternate security which must be separately executed for the benefit of the Commission. This signature does not cure deficiencies in any required certifications, disclosures and/or affidavits. I (We) also acknowledge the right of the Commission to require full and final execution on any certification, disclosure or affidavit contained in the proposal at the Commission's election upon award. Failure to so execute at the Commission's request within the time allowed in the Standard Specifications for execution of all contract documents will result in forfeiture of the bid bond or alternate security.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda):


1 Revised Table of Contents; Added SP 907-619-5; Revised Bid Items; Revised or Added Plan Sheet Nos. 2,\& 4; Amendment EBSx Download Required.
(Must agree with total addenda issued prior to opening of bids)
Respectfully Submitted,

DATE $\qquad$
TITLE $\quad$ Contractor

ADDRESS $\qquad$
CITY, STATE, ZIP $\qquad$
PHONE $\qquad$
FAX
E-MAIL
(To be filled in if a corporation)
Our corporation is chartered under the Laws of the State of $\qquad$ and the names, titles and business addresses of the executives are as follows:

| President | Address |
| :--- | :--- | :--- |
| Secretary | Address |
| Treasurer | Address |

The following is my (our) itemized proposal.
MRP-6059-31(019)/ 307159301000 \& MRP-5059-38(230)/ 307163301000
Lauderdale \& Jasper County(ies)
Revised 01/26/2016

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06/04/2020 04:13 PM

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-619-5
CODE: (IS)
DATE: 01/17/2018

## SUBJECT: Traffic Control for Construction Zones

Section 619, Traffic Control for Construction Zones, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

## 907-619.02--Materials.

907-619.02.8--Traffic Signals and Flashers. Delete Subsection 619.02.8.1 on pages 452 thru 455 , and substitute the following.

907-619.02.8.1-Portable Traffic Signals. Portable traffic signals shall be trailer or pedestal mounted units that provide for easy, legal transportation and quick setup and deployment. Each unit shall be self-contained. The types of portable traffic signals are as follows.

- Type 1 portable traffic signal shall include two signal heads per trailer with one signal head mounted on an overhead mast arm that can be extended over the travel lane, and the other signal head shall be mounted on the vertical upright of the trailer.
- Type 2 portable traffic signal shall include one signal head that is mounted on the vertical upright of the pedestal/cart or trailer. Pedestal/Cart mounted shall be designated as Type 2A and Trailer mounted shall be designated as Type 2B. Type 2 portable traffic signals shall be tested to MASH Standards or NCHRP Test Level 3 crash testing requirements by an accredited independent test facility, with supporting documentation available upon request.
- Type 3 portable traffic signal shall be the same as Type 1 mentioned above butwith enhanced capabilities as mentioned in each applicable section below.

The portable traffic signals shall be MUTCD Compliant and utilize standard ITE signal heads, and adhere to the ITE Specifications and Standards for Vehicle Traffic Control Signal Heads, Light Emitting Diode (LED) Circular Signal Supplement. The units shall be battery powered with a solar charging system, and be equipped with an onboard battery charger capable of being used with a 120 V AC power source. Portable traffic signals shall be able to communicate with other portable signals via 900 MHz or other accepted wireless communications. If wireless connectivity is not feasible, hardwired connectivity shall be an acceptable alternative, as approved by the Engineer. Portable Traffic Signals shall include all the major components listed below or be able to perform the functions of these components. The major components of the unit shall include, but are not limited to, the trailer or pedestal/cart, telescoping mast arm (on Type 1 and 3), signal head(s) and back plates, traffic signal controller with operating software, solar charging system with batteries, input and output devices, vehicle detection, flasher units, conflict monitor, relays,
communications system and other equipment required for the safe operation and installation of the unit.

907-619.02.8.1.1--Signal Heads. The signal heads and all applicable components of the portable traffic signal shall meet the physical display and operational requirements of conventional traffic signals as specific in the Manual on Uniform Traffic Control Devices (MUTCD). The signal heads shall be cast aluminum or polycarbonate and shall meet the requirements laid out in the Mississippi Standard Specification for traffic signal heads and associated MDOT material specifications for traffic signal heads. The signal heads shall accommodate standard 12-inch LED indications meeting the ITE Specification "Vehicle Traffic Control Signal Heads" and ITE Specifications and Standards for Vehicle Traffic Control Signal Heads, Light Emitting Diode (LED) Circular Signal Supplement.

For Type 1, Type 2 and Type 3 portable traffic signals, the signal heads shall have the ability to be rotated 180 degrees to face in the opposite direction and shall have the ability to rotate and lock in approximately 10 degree increments to position the signal head for the optimum visibility to motorists.

For Type 1 portable traffic signals, each unit shall contain two signal heads with one signal head mounted on an overhead mast arm that can be extended over the travel lane with a minimum clearance of 17 feet measured from the bottom of the signal head unit to the road surface. The lower signal head shall be mounted to the vertical upright of the trailer at a minimum height of eight feet $\left(8^{\prime}\right)$ from the bottom of the signal head unit to the road surface.

For Type 2 portable traffic signals, the signal head shall be mounted to the vertical upright of the trailer at a minimum height of eight feet ( $8^{\prime}$ ) from the bottom of the signal head unit to the road surface.

For Type 3 portable traffic signals, each unit shall be the same as Type 1 mentioned above but with enhanced capabilities as mentioned below.

907-619.02.8.1.2--Controller and Operating Requirements. The portable traffic signal (Types 1,2 , and 3) shall include a solid state Controller Unit (CU) that is in compliance with NEMA TS 5 Performance Standard. The CU shall have an easy to read front panel backlit display for viewing and programming the configuration settings and CU status. The CU shall be capable of operating the portable traffic signal system in a fixed time, traffic actuated or manual control mode. Multiple portable traffic signals shall have the capability to be interconnected to form a portable traffic signal system. Each portable traffic signal within a connected system shall have the capability to serve as either the master or remote signal. Each portable traffic signal shall include a Conflict Monitor Unit (CMU), or Malfunction Management Unit (MMU) to ensure phase conflicts do not exist during operation.

For Type 1 and Type 2 portable traffic signals, a minimum of five (5) automatic time-of-day timing plans within a 24 -hour period should be available in fixed time mode. The CU should have the ability to control a minimum of four (4) traffic phases with programmable cycle time adjustments and user adjustable red, amber, minimum green and maximum green times. The CU shall have
the capability of programming green and red times from 1 to 999 seconds and yellow times up to 15 seconds in one-second increments. The CU shall also have the capability of facilitating standby modes of red, red flash and yellow flash.

For Type 3 portable traffic signals, a minimum of ten (10) automatic time-of-day timing plans within a 24 -hour period should be available in fixed time mode. The CU should have the ability to control a minimum of 16 traffic phases with programmable cycle time adjustments and user adjustable red, amber, minimum green and maximum green times. The CU shall have the capability of programming green and red times from 1 to 999 seconds and yellow times up to 15 seconds in one-second increments. The CU shall also have the capability of facilitating standby modes of red, red flash and yellow flash.

The system shall also have the ability to operate in vehicle actuation mode when vehicle detection components are used. The operating system shall have the capability to allow the Portable Traffic Signal to be connected to and controlled by a standard NEMA controller.

The system shall have the capability to be controlled remotely using a hardwired or wireless remote. The wireless radio remote shall be capable of communicating at a clear line of site distance up to $1 / 4$ mile from the master.

The CU shall have the capability of interfacing with a Remote Monitoring System (RMS) capable of reporting signal location, battery voltage, and system faults. The RMS shall include a passwordprotected web site, viewable via an internet connection. In the event of a system fault, the RMS shall provide specific information concerning the cause of the system fault (example: "red lamp on signal number 1 out'). The RMS shall immediately contact previously designated individuals via SMS text messaging or email, upon a fault event.

The active timing program operating the PTS system shall be available and viewable through the RMS website at all times. The RMS shall maintain a history of the operating system in each signal including total operating hours, alerts, and the location of the PTS trailer.

907-619.02.8.1.3--Wireless Communications. The portable traffic signals shall communicate with other portable traffic signals within the signal system via license-free wireless 900 MHZ radio link communications as specified in Subsection 662.02 .2 of the radio Interconnect System specification. The radio units shall maintain communications at a minimum distance of one (1) mile. The radio system shall conform to the applicable Federal Communications Commission requirements and all applicable state and local requirements.

The portable traffic signals shall be in direct communication at all times either by wireless or hardwire connection to provide for the required conflict monitoring / malfunction management system.

907-619.02.8.1.4--Power Requirements. Each Portable Traffic Signal shall be equipped with a power source consisting of a solar collection array, solar controller and/or charging unit and batteries sufficient to operate the signal system. The number and size of batteries shall be sufficient to operate the Type 1 and Type 3 signals for a minimum of 30 days and Type 2A signals for
minimum of five (5) days, and Type 2B signals for minimum of 15 days without additional charging or assist from the solar array. An on-board battery charger shall be compatible with both the solar array and with a 120 V AC power source.

For Type 1 signals, the solar panel array shall provide for a minimum of 440 watts of solar collection capability.

For Type 2A signals, the solar panel array shall provide for a minimum of 90 watts of solar collection capability.

For Type 2B signals, the solar panel array shall provide for a minimum of 110 watts of solar collection capability.

For Type 3 signals, the solar panel array shall provide for a minimum of 480 watts of solar collection capability and shall include a tilt and rotate system to optimally position the panels.

All instrumentation for the electrical system and battery compartment shall be contained in a lockable weatherproof enclosure. Solar panels shall be secured to the mounting brackets for theft prevention.

907-619.02.8.1.5--Trailer and Lift System. The trailer or pedestal/cart and all mounted components shall conform to the wind loading requirements as follows: 100 mph minimum for Type 1 portable traffic signals, 55 mph minimum for Type 2 A portable traffic signals, 75 mph minimum for Type 2B portable traffic signals, and 90 mph minimum for Type 3 portable traffic signals as described in the AASHTO Standard Specifications for Highway Signs, Luminaries and Traffic Signals, as specified in the plans including all interims and updates. At the request of the Engineer, proof of conformance to these wind load ratings shall be verified by a third-party. No additional loose ballast shall be used to meet these wind load requirements. The trailer shall be made of structural steel and shall include four (4) leveling/stabilizer jacks capable of lifting the trailer a minimum of six inches ( 6 ").

The trailer or pedestal shall be equipped with a mechanical, hydraulic or electric lift system sufficient for one person to be able to raise and lower the vertical upright and/or horizontal mast arm to and from the operating position.

For Type 1, 2B, and Type 3 signals, the trailer shall be equipped to provide legal and safe transport on the public highway system at speeds up to 55 mph .

All exterior metal surfaces, except signal heads and back plates, shall be powder-coat painted highway safety orange.

907-619.02.9--Impact Attenuators. Delete the sentence in the first paragraph of Subsection 619.02 .9 on page 455 , and substitute the following.

Impact attenuators must be listed on the Department's APL.

907-619.02.11--Snap-Back Delineators. Delete the sentence in the paragraph of Subsection 619.02.11 on page 456 , and substitute the following.

Snap-back delineators shall be selected from the list of surface mounted flexible delineator posts as shown on the Department's APL.

## 907-619.02.14-Changeable Message Sign.

907-619.02.14.5--PCMS Controller and Storage Cabinets. Delete the fifth sentence in the first paragraph of Subsection 619.02 .14 .5 on pages 462 and 463 , and substitute the following.

The controller cabinet shall be illuminated.
907-619.05--Basis of Payment. Add the following to the list of pay items ending on page 480.
907-619-E3: Changeable Message Sign *****

- per each

907-619-H2: Traffic Signal, Portable, Type $\qquad$ - per each

Bridge Repairs on County Road 39 over I-59 and 0.2 miles North of Clarke County Line at Chunky River, known as State Project Nos. MRP-6059-31(019) / 307159301 \& MRP-5059-38(230) / 307163301 in Jasper \& Lauderdale Counties

| Line No. | Item Code | Adj Code | Quantity | Units | Description [Fixed Unit Price] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Roadway Items |  |  |  |  |  |
| 0010 | 202-B240 |  | 2,412 | Linear Feet | Removal of Traffic Stripe |
| 0020 | 403-D007 | (BA1) | 18 | Ton | 9.5-mm, HT, Asphalt Pavement, Polymer Modified |
| 0030 | 406-A002 |  | 312 | Square Yard | Cold Milling of Bituminous Pavement, All Depths |
| 0040 | 618-A001 |  | 1 | Lump Sum | Maintenance of Traffic |
| 0050 | 619-A1002 |  | 1,362 | Linear Feet | Temporary Traffic Stripe, Continuous White |
| 0060 | 619-A2002 |  | 1,362 | Linear Feet | Temporary Traffic Stripe, Continuous Yellow |
| 0070 | 619-A3002 |  | 1,362 | Linear Feet | Temporary Traffic Stripe, Skip White |
| 0080 | 619-D1001 |  | 64 | Square Feet | Standard Roadside Construction Signs, Less than 10 Square Feet |
| 0090 | 619-D2001 |  | 983 | Square Feet | Standard Roadside Construction Signs, 10 Square Feet or More |
| 0100 | 619-F1001 |  | 812 | Linear Feet | Concrete Median Barrier, Precast |
| 0110 | 619-F2001 |  | 442 | Linear Feet | Remove and Reset Concrete Median Barrier, Precast |
| 0120 | 619-G4005 |  | 144 | Linear Feet | Barricades, Type III, Single Faced |
| 0130 | 619-G7001 |  | 12 | Each | Warning Lights, Type "B" |
| 0140 | 620-A001 |  | 1 | Lump Sum | Mobilization |
| 0150 | 627-K001 |  | 7 | Each | Red-Clear Reflective High Performance Raised Markers |
| 0154 | 907-619-E3001 |  | 5 | Each | Changeable Message Sign |
| ALTERNATE GROUP AA NUMBER 1 |  |  |  |  |  |
| 0160 | 907-624-A002 |  | 620 | Linear Feet | 6" Inverted Profile Thermoplastic Traffic Stripe, Skip White |
| 0170 | 907-624-B002 |  | 760 | Linear Feet | 6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White |
| 0180 | 907-624-D002 |  | 760 | Linear Feet | 6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow |
| ALTERNATE GROUP AA NUMBER 2 |  |  |  |  |  |
| 0190 | 628-G001 |  | 620 | Linear Feet | 6" High Performance Cold Plastic Traffic Stripe, Skip White |
| 0200 | 628-H001 |  | 760 | Linear Feet | 6" High Performance Cold Plastic Traffic Stripe, Continuous White |
| 0210 | 628-J001 |  | 760 | Linear Feet | 6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow |
| Bridge Items |  |  |  |  |  |
| 0220 | 907-202-B001 |  | 45 | Square Yard | Removal of Bridge Deck, Hydrodemolition |
| 0230 | 907-202-B003 |  | 24 | Square Yard | Removal of Approach Slab, Hydrodemolition |
| 0240 | 907-804-0001 | (S) | 5 | Cubic Yard | Bridge Deck Overlay Concrete |
| 0250 | 907-808-A002 | (S) | 174 | Linear Feet | Joint Repair |
| 0260 | 907-823-A001 |  | 58 | Linear Feet | Preformed Joint Seal, Type I |
| 0270 | 907-823-A002 |  | 29 | Linear Feet | Preformed Joint Seal, Type II |
| 0280 | 907-823-B001 |  | 116 | Linear Feet | Saw Cut, Type I |
| 0290 | 907-823-B002 |  | 58 | Linear Feet | Saw Cut, Type II |


| Line No. | Item Code | Adj Code | Quantity | Units | Description [Fixed Unit Price] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0300 | 907-824-PP003 |  | 529 | Square Feet | Bridge Repair, Epoxy Repair |
| 0310 | 907-824-PP003 |  | 687 | Square Feet | Bridge Repair, FRP Wrap |
| 0320 | 907-824-PP003 |  | 44 | Square Feet | Bridge Repair, FRP Wrap, Per Plans |
| 0330 | 907-824-PP003 |  | 32 | Square Feet | Bridge Repair, Removal of Bridge Deck and Approach Slab |
| 0340 | 907-824-PP004 |  | 1 | Lump Sum | Bridge Repair, Cleaning |
| 0350 | 907-824-PP004 |  | 1 | Lump Sum | Bridge Repair, Remove and Replace Span No. 3 |
| 0360 | 907-824-PP008 |  | 70 | Linear Feet | Bridge Repair, New Construction of Bridge Railing and Overhang, Per Plans |
| 0370 | 907-824-PP008 |  | 70 | Linear Feet | Bridge Repair, Removal of Bridge Railing and Overhang, Per Plans |




| SUMMARY OF QUANTITIES (SHEET 1) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| PAY ITEM NO. | PAY ITEM | UNIT | LAUDERDALE : 307163-301000 |  |
|  |  |  | Prelim | Final |
| 202-B240 | Removal of Traffic Stripe | LF | 2,412 |  |
| 403-D007 | 9.5-mm, HT, Asphalt Pavement, Polymer Modified | TON | 9 |  |
| 406-A002 | Cold Milling of Bituminous Pavement, All Depths | SY | 156 |  |
| 618-A001 | Maintenance of Traffic | LS | 1 |  |
| 619-A1002 | Temporary Traffic Stripe, Continuous White | LF | 1,362 |  |
| 619-A2002 | Temporary Traffic Stripe, Continuous Yellow | LF | 1,362 |  |
| 619-A3002 | Temporary Traffic Stripe, Skip White | LF | 1,362 |  |
| 619-D1001 | Standard Roadside Construction Signs, Less than 10 Square Feet | SF | 32 |  |
| 619-D2001 | Standard Roadside Construction Signs, 10 Square Feet or More | SF | 360 |  |
| 907-619-E3001 | Changeable Message Sign | EA | 5 |  |
| 619-F1001 | Concrete Median Barrier, Precast | LF | 370 |  |
| 619-G4005 | Barricades, Type III, Single Faced | LF | 48 |  |
| 620-A001 | Mobilization | LS | 1 |  |
|  |  |  |  |  |
| 907-624-A002 | 6" Inverted Profile Thermoplastic Traffic Stripe, Skip White | LF | 520 |  |
| 907-624-B002 | 6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White | LF | 520 |  |
| 907-624-D002 | 6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow | LF | 520 |  |
|  | OR |  |  |  |
| 628-G001 | 6" High Performance Cold Plastic Traffic Stripe, Skip White | LF | 520 |  |
| 628-H001 | 6" High Performance Cold Plastic Traffic Stripe, Continuous White | LF | 520 |  |
| 628-J001 | 6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow | LF | 520 |  |
|  |  |  |  |  |
| 627-K001 | Red-Clear Reflective High Performance Raised Markers | EA | 7 |  |

