SECTION 905 -- PROPOSAL (CONTINUED)

I (We) further propose to execute the attached contract agreement (Section 902) as soon as the work is awarded to me (us), and to begin and complete the work within the time limit(s) provided for in the Specifications and Advertisement. I (We) also propose to execute the attached contract bond (Section 903) in an amount not less than one hundred (100) percent of the total of my (our) part, but also to guarantee the excellence of both workmanship and materials until the work is finally accepted.

I (We) enclose a certified check, cashier's check or bid bond for **five percent (5%) of total bid** and hereby agree that in case of my (our) failure to execute the contract and furnish bond within Ten (10) days after notice of award, the amount of this check (bid bond) will be forfeited to the State of Mississippi as liquidated damages arising out of my (our) failure to execute the contract as proposed. It is understood that in case I am (we are) not awarded the work, the check will be returned as provided in the Specifications.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda): 6/16/2015 ADDENDUM NO. DATED ADDENDUM NO. _____ ADDENDUM NO DATED ADDENDUM NO. DATED TOTAL ADDENDA: 1 Number Description (Must agree with total addenda issued prior to opening of bids) Revised Table of Contents; Add SP No. 907-625-7; Revised Bid Items; Amendment EBS Download Required. Respectfully Submitted, DATE _____ Contractor BY ______Signature TITLE ADDRESS CITY, STATE, ZIP PHONE _____ E-MAIL (To be filled in if a corporation) Our corporation is chartered under the Laws of the State of ______ 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. MP-6000-00(251) / 305526301 Districtwide County(ies)

Revised 09/21/2005

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PROJECT: MP-6000-00(251)/305526301 - District 6

(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET OF SECTION 905 AS ADDENDA)
06/16/2015 08:25 AM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CODE: (SP)

SPECIAL PROVISION NO. 907-625-7

DATE: 08/14/2012

SUBJECT: High Build Painted Traffic Markings

Section 625, Painted Traffic Markings, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable to High Build Painted Traffic Markings only.

SECTION 907-625 - HIGH BUILD PAINTED TRAFFIC MARKINGS

<u>907-625-01--Description</u>. This work consists of furnishing and applying reflective white or yellow paint for high build pavement striping in accordance with plan details, the MUTCD and these specifications.

<u>907-625.02--Materials</u>. The high build traffic paint shall be quick dry water-borne traffic paint to be applied on asphalt or Portland cement concrete pavements. The paint must perform properly when preheated to 110° to 130°F and accept glass beads so that the spheres are imbedded to a depth of 50 percent of their diameter.

All paint materials, including vehicle, pigment, paste, driers, thinners, and mixed paint shall conform to the requirements of these specifications unless otherwise stipulated. Paint shall be furnished ready-mixed or in paste or powder form, as may be specified, and shall be of the type and color shown on the plans or as otherwise indicated. All paints for incorporation in the work shall be manufactured in the United States. Any paint that has caked, hardened or otherwise deteriorated shall not be used.

<u>907-625.02.1--Sampling and Testing</u>. Sampling and testing of paint shall be in accordance with the appropriate method in Federal Test Method No. 141, ASTM and/or Mississippi Test Method.

Sampling at the option of the Department will be performed at the point of manufacture or at a designated point of delivery. When the paint is sampled at the point of manufacture, the Department representative shall be given full access to the manufacturing process.

The Central Laboratory may utilize x-ray analysis, gas chromatography, infrared, or ultra violet spectral analysis of the paint or its components to determine whether specified ingredients were used. Paint found not to be in compliance with the approved formula shall not be used.

A sample may be taken by MDOT at random from the initial shipment of each batch received by the Contractor and forwarded to the Central Testing Laboratory and tested for compliance with all requirements of this specification. If the test results fail, another sample will be taken from the same batch number and re-tested. Unacceptable test results shall be cause to reject the entire batch of traffic paint.

<u>907-625.02.2--Containers and Marking</u>. Paint shall be shipped in sturdy leak proof containers. The size of the containers shall be at the option of the Contractor unless specified otherwise in the contract.

Each container or label thereon shall be marked as follows:

Net weight in pounds
Net volume in U. S. gallons
Color
Code number
Batch number
Name and percentage of each component
Name and address of manufacturer
Date of manufacture

In addition, each container and labeling thereon shall meet the requirements of State and Federal Regulations for transporting the paint.

907-625.02.3--High Build Water Borne Traffic Paint. This material shall be a rapid setting waterborne compound suitable for use with hot application equipment. The material shall meet the requirements Specification Adherence of Table 1. The paint shall contain Rohm & Haas Rhoplex Fastrack HD-21A emulsion with 48.5 - 49.5 percent solids content or Dow DT 400NA acrylic emulsion with 49.5 - 51.5 percent solids content or approved equal. White paint shall contain a minimum of 1.0 pound per gallon of titanium dioxide conforming to ASTM D 476 and the yellow paint shall be Hansa Yellow (11-2400). The paint shall be tested by analytical infrared (IR) spectroscopy.

Table 1
Water Borne Traffic Paint Physical Properties

Property	Requirer	Test Method	
	Min	Max	
PH	9.9		ASTM E 70
Viscosity, at 25°C Krebs Unit	80	95	ASTM D 562
Drying Time Minutes		10	ASTM D 711
Percent Pigment *	55	62	ASTM 3723
Total Solids,%	73	79	ASTM D 2369
Weight Per Gallon, Lb./Gal			ASTM D 1475
White	13.7		
Yellow	13.1		
Daylight Reflectance, %			ASTM E 1349
White	Not less than 84%, relative to magnesium oxide		Federal Test Method No. 141
Yellow	Not less than 54%, relative to magnesium oxide		Federal Test Method No. 141
Color	Pass		ASTM D 6628
Pigment Composition	Pass		See 907-625.02.3
IR	Pass		See 907-625.02.3

^{*} No theoretical empirical factor shall be applied in determining the pigment percent of the paint. Percent pigment will not be calculated by adding back the burned off organic constituents of the pigment.

Color -- Yellow shall conform to requirements of the Table 2 listed below when tested in accordance with ASTM E 1349.

Table 2
Water Borne Traffic Paint Color Specification Limits (Daytime)

water borne Trame rame color specification Emilies (Daytime)								
	1		2		3		4	
Color	X	у	X	у	X	у	X	у
Yellow	0.500	0.428	0.470	0.456	0.500	0.483	0.530	0.456

The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65.

<u>907-625.02.4--Glass Beads</u>. Glass beads shall meet the requirements of Subsection 720.01 for Class 'B' High Visibility beads.

907-625.03--Construction Requirements.

<u>907-625.03.1--Equipment.</u> Selection of proper equipment to produce satisfactory results within the following requirements shall be the responsibility of the Contractor.

- a) Equipment shall permit traffic to pass safely within the limits of the roadway surface and shoulder while operating.
- b) Equipment shall be designed for placement of both solid and skip line stripes of the spacing shown on the plans with square, neat stripe ends.
- c) Equipment shall provide a method for cleaning the surface of dust immediately prior to placement of striping materials.
- d) Equipment shall provide a gravity bead dispenser for drop-on application of glass beads.
- e) The equipment shall provide accurate regulation of the application rate and shall have a tachometer or other approved device to ensure uniform paint application at the designated rate. The equipment shall be adjustable for applying one, two or three adjacent lines simultaneously at the specified spacing and be equipped with a device capable of following a control line. Operation of the unit shall be such that paint will not be spattered or blown on another stripe. The unit shall be designed to properly agitate the paint while in operation.
- f) The equipment may be equipped with a heat exchanger to heat the paint to reduce drying time.
- g) The operation shall include a trailing vehicle equipped with a flashing arrow board.

<u>907-625.03.2--Surface Preparation.</u> All areas to be painted shall be thoroughly cleaned. Cleaning may be done by hand brooms, rotary brooms, air blast, scrapers, or whatever combination of equipment is necessary to clean the pavement thoroughly without damage to the surface. Before edge striping, particular care shall be taken to remove all vegetation, loose soil, and the like from the area to be painted. Should other methods fail, the surface shall be wetted with a water jet and scrubbed as necessary to dislodge all foreign material. After washing, the surface shall be allowed to dry thoroughly, and all films of dried mud apparent after surface drying shall be removed before application of paint. Painting shall follow as closely as practicable after the surface has been cleaned and dried, but no paint shall be applied until the surface has been inspected and permission given to proceed. The cost for preparing the surface shall be included in the unit prices for the marking items.

<u>907-625.03.3--Weather Limitations</u>. No paint striping shall be done when the pavement surface is not thoroughly dried, when the air is foggy or misty, when the air or surface temperature is below 50°F, or when wind or other condition causes a film of dust to be deposited

on the surface after cleaning and before striping can be done or causes displacement of striping material.

<u>907-625.03.4--Application.</u> The longitudinal joint or existing centerline stripe shall be used in determining the location of the centerline of new striping. In the absence of a longitudinal joint or existing stripe, the location of the centerline of new striping shall be located by the Contractor with the approval of the Engineer. Skip line individual intervals will not be marked. No striping material shall be applied over a guide string line.

Paint Preparation. Immediately before application, paints shall be agitated and mixed thoroughly to a uniform consistency, free from lumps or agglomerates. Paints shall be kept covered to retain volatiles. Paints shall not be thinned without approval.

Application Rates. Paint shall be applied at the rate of 37.5 gallons per mile of 6-inch wide stripe. Glass beads shall be applied at a rate of 450 pound per mile of 6-inch wide stripe.

Paint may be heated in heat exchangers to accelerate drying to a temperature between 110° and 130° F for water borne paint.

<u>907-625.03.5--Tolerances.</u> The length and width of lines shall be within a tolerance of plus or minus three inches and plus or minus 1/8 inch, respectively. For skip markings, the tolerance for intervals shall not exceed the line length tolerance.

Markings applied at less than minimum material rates, deviating from true alignment by more than one inch in 50 feet, exceeding stipulated length and width tolerances, and showing light spots, faulty distribution of beads, smears, or other deficiencies or irregularities shall be removed and replaced. Removal methods shall be in accordance with Subsection 619.03.2.

<u>907-625.03.6--Protection</u>. The newly painted markings shall be protected so that, insofar as possible, paint will not be picked up by the tires of passing vehicles. Warning signs shall be placed at the beginning of a wet line and at points well in advance of the marking equipment. For the benefit of the Contractor, small flags or other similarly effective small objects may be placed near freshly applied lines at frequent intervals to reduce crossings by traffic. Damaged portions of stripes shall be effaced and replaced by the Contractor at no additional cost to the State.

Operations shall be conducted so that traffic can move without undue hindrance. When public traffic is being maintained, warning signs at the starting end shall be moved forward as sections of stripe dry sufficiently to prevent pick-up under traffic.

<u>907-625.04--Method of Measurement</u>. High build painted traffic markings completed in accordance with the plans and specifications will be measured by the mile or by the linear foot, as indicated, from end-to-end of individual stripes. In the case of skip lines the measurement will include skips. The length used to measure centerline, lane lines and edge stripes will be the horizontal length computed along the stationed control line. Stripes more or less than six inches in width will be converted to equivalent lengths of six-inch stripe.

Detail traffic stripe will be measured by the linear foot from end-to-end of individual stripes. Measurement will be made along the surface of each stripe and will exclude nominal skip intervals where specified. Stripes more or less than six inches in width will be converted to equivalent lengths of six-inch stripe.

Legend, which is to include railroad markings, pedestrian crosswalks and stop lines, will be measured by the square foot or linear foot. Pay areas of individual letters and symbols will usually be shown on the plans and measured by the square foot. Transverse railroad bands, pedestrian crosswalks and stop lines will generally be measured by the linear foot, in which case, stripes more or less than six inches in width will be converted to equivalent lengths of six-inch widths.

<u>907-625.05--Basis of Payment</u>. High build painted traffic markings, measured as prescribed above, will be paid for at the contract unit price per mile, linear foot, or square foot as applicable, which shall be full compensation for preparation of the surface, furnishing and applying all materials, protection of wet paint; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

The prices thus paid shall be full compensation for completing the work.

Payment will be made under:

907-625-A: Traffic Stripe, High Build, Skip White - per linear foot or mile 907-625-B: Traffic Stripe, High Build, Skip Yellow - per linear foot or mile 907-625-C: Traffic Stripe, High Build, Continuous White - per linear foot or mile 907-625-D: Traffic Stripe, High Build, Continuous Yellow - per linear foot or mile 907-625-E: Detail Traffic Stripe, High Build - per linear foot - per square foot or linear foot

 Section 905
 MP-6000-00(251)/305526301

 Proposal (Sheet 2 - 1)
 DISTRICT

Sealing on various routes in District 6, known as State Project No. MP-6000-00(251) / 305526301 Districtwide.

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]			
Roadway Items								
0010	627-H001		6,200	Each	Chip Seal Reflective Raised Markers. Two-Way Yellow			
0020	627-J001		5,000	Each	Two-Way Clear Reflective High Performance Raised Markers			
0030	627-L001		6,200	Each	Two-Way Yellow Reflective High Performance Raised Markers			
0040	907-405-D001		173,583	Square Yard	Scrub Seal			
0050	907-410-A001	(A2)	192,000	Gallon	Asphalt for Surface Treatment, Grade CRS-2P			
0060	907-410-A002	(A2)	76,400	Gallon	Asphalt for Surface Treatment, Grade CQS-1H			
0070	907-410-C002	(GY)	5,300	Cubic Yard	Seal Aggregate Cover Material, Size 7, Limestone			
0800	907-618-A001		1	Lump Sum	Maintenance of Traffic			
0090	907-625-B004		35	Mile	Traffic Stripe, High Build, Skip Yellow			
0100	907-625-C004		98	Mile	Traffic Stripe, High Build, Continuous White			
0110	907-625-D004		54	Mile	Traffic Stripe, High Build, Continuous Yellow			