MDOT Use Only
Checked _____
Loaded _____
Keyed _____

14 -

SM No. CMP1006480061

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

14
Scrub Seal & Overlay approximately 10 miles of SR 6 from SR 145 in Nettleton to SR 25 in Amory, known as State Project No. MP-1006-48(006) / 306454301 in Monroe County.

Project Completion: 64 Working Days

(STATE DELEGATED)

NOTICE

BIDDERS MUST COMPLETE AN ONLINE REQUEST FOR PERMISSION TO BID THIS PROJECT.

Electronic addendum updates will be posted on www.gomdot.com

SECTION 900

OF THE CURRENT
2017 STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION

JACKSON, MISSISSIPPI

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
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(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET OF SECTION 905 AS ADDENDA)

04/25/2018 01:01 PM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 901 - ADVERTISEMENT

Electronic bids will be received by the Mississippi Transportation Commission at 10:00 o'clock A.M., Tuesday, May 22, 2018, from the Bid Express Service and shortly thereafter publicly read on the Sixth Floor for:

Scrub Seal & Overlay approximately 10 miles of SR 6 from SR 145 in Nettleton to SR 25 in Amory, known as State Project No. MP-1006-48(006) / 306454301 in Monroe County.

The attention of bidders is directed to the predetermined minimum wage rate set by the U. S. Department of Labor under the Fair Labor Standards Act.

The Mississippi Department of Transportation hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, age, disability, religion or national origin in consideration for an award.

Plans and specifications are on file in the offices of the Mississippi Department of Transportation.

Contractors may request permission to bid online at http://shopmdot.ms.gov at no cost. Upon approval, Contractors shall be eligible to submit a bid using Bid Express at http://bidx.com. Specimen proposals may be viewed and downloaded online at no cost at http://mdot.ms.gov or purchased online at http://shopmdot.ms.gov at a cost of Ten Dollars ($10.00) per proposal plus a small convenience fee. Cash or checks will not be accepted as payment.

Plans must be purchased online at <https://shopmdot.ms.gov>. Costs of plans will be on a per sheet basis plus a small convenience fee. If you have any questions, you can contact the MDOT Plans Print Shop at (601) 359-7460, or e-mail at plans@mdot.state.ms.us. Plans will be shipped upon receipt of payment. Cash or checks will not be accepted as payment.

Bid bond, signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent, with Power of Attorney attached, a Cashier's check or Certified Check for five (5%) percent of bid, payable to STATE OF MISSISSIPPI, must accompany each proposal.

The attention of bidders is directed to the provisions of Subsection 102.07 pertaining to irregular proposals and rejection of bids.

MELINDA L. MCGRATH
EXECUTIVE DIRECTOR

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1 **CODE: (IS)**

DATE: **03/01/2017**

SUBJECT: **Governing Specifications**

The current (2017) Edition of the Standard Specifications for Road and Bridge Construction adopted by the Mississippi Transportation Commission is made a part hereof fully and completely as if it were attached hereto, except where superseded by special provisions, or amended by revisions of the Specifications contained within this proposal. Copies of the specification book may be purchased from the MDOT Construction Division, or online at shopmdot/default.aspx?StoreIndex=1.

A reference in any contract document to controlling requirements in another portion of the contract documents shall be understood to apply equally to any revision or amendment thereof included in the contract.

In the event the plans or proposal contain references to the 2004 Edition of the Standard Specifications for Road and Bridge Construction, it is to be understood that such references shall mean the comparable provisions of the 2017 Edition of the Standard Specifications.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3 **CODE: (SP)**

DATE: **01/17/2017**

SUBJECT: **Final Clean-Up**

Immediately prior to final inspection for release of maintenance, the Contractor shall pick up, load, transport and properly dispose of all litter from the entire highway right-of-way that is within the termini of the project.

Litter shall include, but not be limited to, solid wastes such a glass, paper products, tires, wood products, metal, synthetic materials and other miscellaneous debris.

Litter removal is considered incidental to other items of work and will not be measured for separate payment.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 9 **CODE: (IS)**

DATE: **03/01/2017**

SUBJECT: **Federal Bridge Formula**

Bidders are hereby advised that the latest revision of Federal Highway Administration Publication No. FHWA-HOP-06-105, **BRIDGE FORMULA WEIGHTS**, dated August 2006, is made a part of this contract when applicable.

Prior to the preconstruction conference, the Contractor shall advise the Engineer, in writing, what materials, if any, will be delivered to the jobsite via Interstate route(s).

Copies of the **BRIDGE FORMULA WEIGHTS** publication may be obtained by contacting:

Federal Highway Administration
400 7th Street, SW
Washington, DC 20590
(202) 366-2212

or

http://www.ops.fhwa.dot.gov/Freight/publications/brdg_frm_wghts/bridge_formula_all_rev.pdf

An on line **BRIDGE FORMULA WEIGHTS CALCULATOR** is available at

http://ops.fhwa.dot.gov/freight/sw/brdgcalc/calc_page.htm

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 12 **CODE: (IS)**

DATE: **03/01/2017**

SUBJECT: **MASH Compliant Devices**

Bidders are hereby advised that the Standard Specifications may require certain traffic control and permanent safety hardware devices to meet the requirements of the Manual for Assessing Safety Hardware (MASH). However, devices meeting the requirements of NCHRP Report 350 will be allowed until the mandatory effective date for MASH compliance. The following table shows the effective dates for MASH compliant devices.

Device	**Effective Date for MASH Compliance**
W-beam barriers, cast-in-place concrete barriers	December 31, 2017
W-beam terminals	June 30, 2018
Cable barriers, cable barrier terminals, crash cushions	December 31, 2018
Bridge rails, transitions, all other longitudinal barriers including portable barriers installed permanently, all other terminals, sign supports, all other breakaway hardware	December 31, 2019

Temporary work zone devices, including portable barriers manufactured after December 31, 2019, must have been successfully tested to the 2016 Edition of MASH. Such devices manufactured on or before this date and successfully tested to NCHRP Report 350 or the 2009 Edition of MASH may continue to be used throughout their normal service lives.

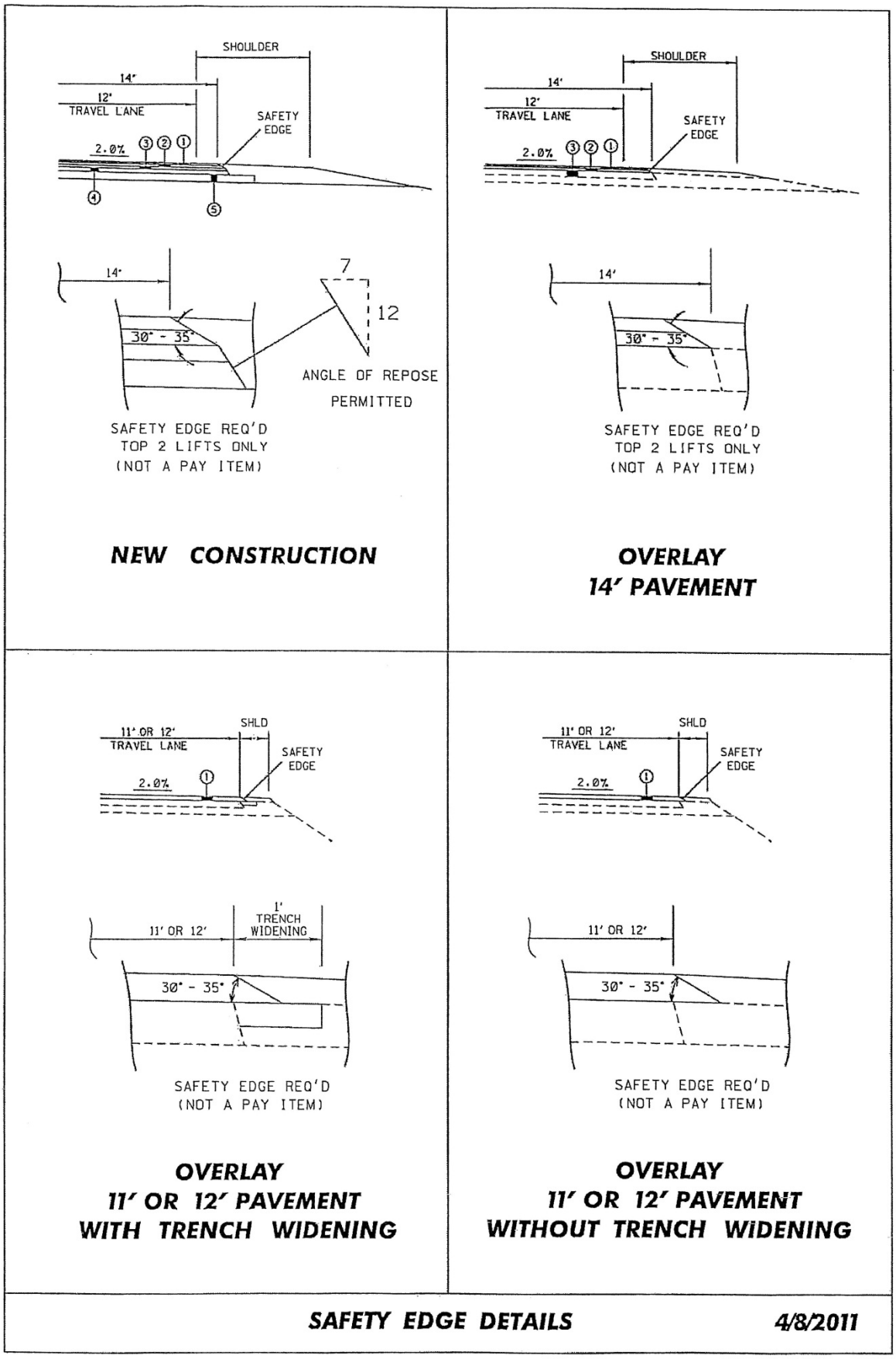
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 13 **CODE: (IS)**

DATE: **03/01/2017**

SUBJECT: **Safety Edge**

Bidders are hereby advised that the Shoulder Wedge (Safety Edge) specified in Section 401, Asphalt Pavements, shall only apply to the top two (2) lifts of asphalt. Open Graded Friction Courses (OGFC) are not to be considered a lift as it pertains to safety edge. Attached is a drawing showing the safety edge. Note that the shoulder dimensions in the bottom two drawings will be less than three feet (3').


SHOULDER
14'
12'
TRAVEL LANE
SAFETY EDGE
2.0%
30° - 35°
7
12
ANGLE OF REPOSE PERMITTED
SAFETY EDGE REQ'D TOP 2 LIFTS ONLY (NOT A PAY ITEM)
NEW CONSTRUCTION
OVERLAY 14' PAVEMENT
11' OR 12'
SHLD
1' TRENCH WIDENING
SAFETY EDGE REQ'D (NOT A PAY ITEM)
OVERLAY 11' OR 12' PAVEMENT WITH TRENCH WIDENING
OVERLAY 11' OR 12' PAVEMENT WITHOUT TRENCH WIDENING
SAFETY EDGE DETAILS
4/8/2011

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO NOTICE TO BIDDERS NO. 14

DATE: 04/06/2018

PROJECT: MP-1006-48(006) / 306454301 – Monroe County

Prior to bidding, the Contractor shall contact the **BNSF Railway Company** concerning insurance coverage required for this project. In case the railroad requires coverage above and beyond that required by the Standard Specifications, the railroad requirements shall be met.

The name insured, description of the work and designation of the job site to be shown on the policy are as follows:

Name Insured: BNSF Railway Company

Description
And Designation: Scrub Seal and Overlay approximately 10 miles of SR 6 from SR 145 in Nettleton to SR 25 in Amory

Mile Post: 0600.52
Latitude: 34.0890140
Longitude: -88.6244950

Notice of starting to work and correspondence pertaining to railroad liability insurance shall be directed to:

Tim Huya
BNSF Railway Company
5800 North Main Street
Saginaw, TX 76179
(817) 352-2902

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 14 **CODE: (SP)**

DATE: **01/17/2017**

SUBJECT: **Railway-Highway Provisions**

Prior to bidding, the Contractor shall contact the Railroad concerning insurance coverage required for this project. In case the railroad requires coverage over and above that required by the Standard Specifications, the railroad requirements shall be met.

The name insured, description of the work and designation of the job site to be shown on the Policy are as follows:

Notice of starting to work, completion of any required forms, and correspondence pertaining to railroad liability insurance shall be directed to the person below.

The Contractor shall not commence, or carry on, any work for installation, maintenance, repair, changing or renewal of any FACILITY, under, over or on RAILROAD property at any location without giving at least ten (10) working days prior notice to the RAILROAD authorized representative at the RAILROAD's office(s) below.

If in the opinion of the RAILROAD, the presence of an authorized representative of the RAILROAD is required to supervise the same, the RAILROAD shall render bills to the Contractor for all expenses incurred by it for such supervision. This includes all labor costs for flagmen or cable locate supplied by the RAILROAD to protect RAILROAD operation, and for the full cost of furnishing, installation and later removal of any temporary supports for said tracks, as the RAILROAD's Chief Engineer's Office may deem necessary.

It will be the Contractor's responsibility to pay all bills associated with railroad flagging and cable locating. Generally, the flagging rate is $700.00 per day (1 to 8 hours) plus overtime at $125.00 per hour, however, the Contractor shall contact the RAILROAD to verify all rates.

A flagman is required anytime a Contractor does any work on or near RAILROAD property within twenty-five (25) feet horizontally of the centerline or any work over any railroad track. The RAILROAD, however, also reserves the right to require a flagman for work on RAILROAD property, which is more than twenty-five (25) feet from the centerline of a railroad track when there are other conditions or considerations that would dictate the need for a flagman to safeguard the RAILROAD's operations, property and safety of working personnel.

A cable locate of RAILROAD owned facilities may be required to identify and protect Signal & Communication cables that have been installed to provide power, signal control, wayside communications. These cables are vital to a safe and reliable railway operation. The cable locate will be performed by a qualified RAILROAD employee.

Outside Contractors are prohibited from driving on, along, or across any track that does not have a RAILROAD installed crossing. They may utilize an existing public crossing. The practice of allowing rubber tired equipment to operate over track with no crossing has been banned.

Exceptions to this rule will require the express approval from the RAILROAD Engineers.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 113 **CODE: (SP)**

DATE: **04/18/2017**

SUBJECT: **Tack Coat**

Bidders are advised that in addition to the products listed on the Department's APL as referenced in Subsection 401.03.1.2 on page 256, the Contractor may use one of the following as a tack coat.

- CSS-1
- CSS-1h
- SS-1
- SS-1h

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 296 **CODE: (SP)**

DATE: **07/25/2017**

SUBJECT: **Reduced Speed Limit Signs**

Bidders are advised that when the plans or contract documents require the speed limit on a project to be reduced, the Contractor shall begin work within 48 hours of installing the reduced speed limit signs. Should the Contractor not start work or have no plans to start work within 48 hours of installing the signs, the reduced speed limit signs shall be covered and existing speed limit signs uncovered.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 445 **CODE: (SP)**

DATE: **10/10/2017**

SUBJECT: **Mississippi Agent or Qualified Nonresident Agent**

Bidders are hereby advised of the requirements of Subsections 102.08, 103.05.2, and 107.14.2.1 of the *2017 Standard Specifications for Road and Bridge Construction* as it refers to bonding agents. Proposal guaranties, bonds, and liability insurance policies must be signed by a **Mississippi Agent or Qualified Nonresident Agent.**

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 446 **CODE: (SP)**

DATE: **10/18/2017**

SUBJECT: **Traffic on Milled Surface in Urban Areas**

Bidders are hereby advised that when the main lanes of a roadway are fine milled, traffic will be allowed to run on a milled surfaces for up to five (5) calendar days. The Contractor will be assessed a penalty of **$5,000 per calendar day** afterwards until the milled surfaces are covered with the next lift of asphalt. It shall be the Contractor's responsibility to ensure that the milling operations do not commence until such time as forecasted weather conditions are suitable enough to allow the placement of the asphalt pavement after the milling operations.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 516 **CODE: (IS)**

DATE: **11/28/2017**

SUBJECT: **Errata and Modifications to the 2017 Standard Specifications**

Page	Subsection	Change
16	102.06	In the seventh full paragraph, change "Engineer" to "Director."
33	105.05.1	In the sixth sentence, change "Contract Administration Engineer" to "Contract Administration Director."
34	105.05.2.1	In subparagraph 2, change "SWPPP, ECP" to "SWPPP and the ECP"
35	105.05.2.2	In subparagraphs 2, add " and" to the end of the sentence. In subparagraph 3, remove ", and" and add ".".
90	109.04.2	In the last paragraph of subparagraph (a), place a period "." at the end of the sentence.
93	109.04.2	In the last paragraph of subparagraph (g), place a period "." at the end of the sentence. Also, in the first paragraph of subparagraph (h), place a period "." at the end of the sentence.
97	109.07	Under ADJUSTMENT CODE, subparagraph (A1), change "HMA mixture" to "Asphalt mixtures."
98	109.11	In the third sentence, change "Engineer" to "Director."
219	308.04	In the last sentence of the last paragraph, change "Contractor's decision" to "Engineer's decision."
300	405.02.5.9	In the first sentence of the second paragraph, change "Hot Mix Asphalt" to "Asphalt Mixtures."
502	630.01.1	In the first paragraph, change "AASHTO" to "AASHTO's LRFD".
636	646.05	Change "each" to "per each" for the pay item units of payment.
640	656.02.6.2	In item 7), change "down stream" to "downstream".
688	630.03.2	Change the subsection number from "630.03.2" to "680.03.2."

725	702.08.3	In the second sentence of the first paragraph, change "hot-mix" to "asphalt."
954	804.02.13.1.6	In the definition for "M" in the % Reduction formulas, change "paragraph 7.3" to "paragraph 5.3."

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 809 **CODE: (SP)**

DATE: **04/04/2018**

SUBJECT: **Contract Time**

PROJECT: **MP-1006-48(006) / 306454301 – Monroe County**

The completion of work to be performed by the Contractor for this project will not be a specified date but shall be when all allowable working days are assessed, or any extension thereto as provided in Subsection 108.06. It is anticipated that the Notice of Award will be issued no later than **June 12, 2018** and the date for Notice to Proceed / Beginning of Contract Time will be **July 12, 2018**

Should the Contractor request a Notice to Proceed earlier than **July 12, 2018** and it is agreeable with the Department for an early Notice to Proceed, the requested date will become the new Notice to Proceed date.

64 Working Days have been allowed for the completion of work on this project.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 810 **CODE: (SP)**

DATE: **04/06/2018**

SUBJECT: **Additional Scrub Seal Requirements**

PROJECT: **MP-1006-48(006) / 306454301 – Monroe County**

Bidders are hereby advised that the **Seal Aggregate Gradation Size No. 89** will be required and will be included in payment for 907-414-A001, Scrub Seal.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-102-2 **CODE: (IS)**

DATE: **11/22/2017**

SUBJECT: **Bidding Requirements and Conditions**

Section 102, Bidding Requirements and Conditions, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-102.01--Prequalification of Bidders. Delete the last sentence of the third paragraph of Subsection 102.01 on page 13, and substitute the following.

The Bidder's Certificate of Responsibility number must be on file with the Department's Contract Administration Division prior to request for permission to bid.

907-102.02--Contents of Proposal Forms. Delete the fourth paragraph in Subsection 102.02 on page 13, and substitute the following.

Prospective bidders must complete an online request for permission to be eligible to bid a project. Upon approval, the bidder will be authorized to submit a bid electronically using Bid Express at http://bidx.com.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-103-2 **CODE: (SP)**

DATE: **06/22/2017**

SUBJECT: **Award and Execution of Contract**

Section 103, Award and Execution of Contract, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-103.01--Consideration of Proposal. Delete the second and third paragraphs of Subsection 103.01 on page 19, and substitute the following.

907-103.01.1--For Projects Constructed Without Federal Funds. Resident Contractors actually domiciled in Mississippi are to be granted preference over nonresidents in awarding of Contracts financed 100% with State funds.

In consideration of proposals that are equal to or in excess of $50,000 and financed 100% with State funds, a nonresident bidder domiciled in a state having laws granting preference to local Contractors will be considered for such contracts on the same basis as the nonresident bidder's state awards contracts to Mississippi Contractors bidding under similar circumstances. When a nonresident Contractor submits a bid equal to or in excess of $50,000 on a contract financed 100% with State funds, a copy of the current laws from the state of domicile and an explanation thereof pertaining to treatment of nonresident Contractors shall be attached. If no preferential treatment is provided for Contractors in the state of domicile and contracts are awarded to the lowest responsible bidder, a statement to this effect shall be attached. Should the attachment not accompany the bid when submitted, the Contractor shall have 10 days following the opening of the bids to furnish the required information to the Contract Administration Director for attachment to the bid. Failure to provide the attachment within 10 days will result in the nonresident Contractor’s bid being rejected and not considered for award. As used herein, the term "resident Contractor" includes a nonresident person, firm or corporation that has been qualified to do business in this State and has maintained a permanent full-time office in the State of Mississippi for two years prior to the submission of the bid, and the subsidiaries and affiliates of such a person, firm or corporation.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-414-1 **CODE: (SP)**

DATE: **05/02/2017**

SUBJECT: **Polymer Modified Asphalt Rejuvenating Scrub Seal**

Section 907-414, Scrub Seal, is hereby added to and made a part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-414 -- POLYMER MODIFIED ASPHALT REJUVENATING SCRUB SEAL

907-414.01--Description. This work shall consist of, but not be limited to, furnishing all labor, materials, equipment and transportation for the application of a polymer modified asphalt rejuvenating scrub seal. All ingredients shall be properly proportioned, mixed, and spread on the paved surface in accordance with this Specification and as directed by the Engineer.

907-414.02--Materials.

907-414.02.1--Aggregate. Unless otherwise noted, the aggregate material shall be one of the seal aggregate cover materials listed in and meeting the requirements of Subsection 703.14 of the Standard Specifications.

907-414.02.2--Asphalt Emulsion for Scrub Seal. The asphalt emulsion for scrub seal shall meet the requirements of the following table and shall be composed of a polymer modifier, a petroleum based rejuvenating agent, and asphalt.

Test on Emulsion	Method	Specification (min)	(max)
Viscosity @77 (SFS)	AASHTO T 59	50	350
Residue, w% (1)	AASHTO T 59	60	-
Storage Stability, 24 h, %	AASHTO T 59	-	1.0
Sieve, w%	AASHTO T 59		0.1
Oil distillate, w%	AASHTO T 59		0.5
Test on Residue(1)			
Viscosity @ 140°F, P	AASHTO T 202	-	3000
Penetration @ 4°C (39.2°F), 200 g, 60 sec	AASHTO T 59	30	-
Test on Polymer Modifier			
Swelling in rejuvenating agent, %; 48 hours exposure @ 104°F	ASTM D 471(2) Modified	-	40% intact film
Test on Rejuvenating Agent			
Flash point, COC , °F	AASHTO T 48	380	-
Viscosity @ 140°F, CST	AASHTO T 201	50	175
Saturate, % by weight	ASTM D 2007	-	30
Asphaltenes	ASTM D 2007	-	1.0
Test on Residue			
Weight Change, %			6.5
Viscosity Ratio			3

(1) Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350ºF plus or minus 10ºF. Maintain at this temperature for 20 minutes. Complete total distillation in 60 plus or minus 5 minutes from first application of heat.

(2) Polymer Modifier Testing: Suitable substrate for film formation shall be polyethylene boards, silicone rubber sheeting, glass, or any substrate which produces a cured film of uniform cross-section. Polymer film shall be prepared from latex as follows:

Resistance to Swelling: Polymer films shall be formed by using a 50 mil drawdown bar and drawing down 50 mils of the latex on polyethylene boards. Films shall be cured for 14 days at 75°F and 50% humidity. Samples for resistance to swelling in rejuvenating agent shall be 1" by 2" rectangles cut from the cured film. Cut at least 3 specimens for each sample to be tested for swelling. Fill 3- 8 oz ointment tins with at least a ½" deep of rejuvenating agent. Swelling samples shall be weighed and then placed in the ointment tins on top of the rejuvenating agent. Then, add at least another ½" deep of rejuvenating agent over each of the latex samples. The ointment tins shall be covered and placed in an oven at 104°F for the specified 48 hours +/- 15 minutes. The ointment tins are allowed to cool to 75°F and then the latex films are removed from the tins. Unabsorbed rejuvenating agent is removed from the intact latex film by scraping with a rubber policeman and blotting with paper towels. If the latex film does not remain intact during removal from the tins or while removing the unabsorbed rejuvenating agent the sample shall be rejected. After the rejuvenating agent is removed from the samples they are then weighed. Percent swelling is reported as weight increase of the polymer film; report mass increase as a percent by weight of the original latex film mass upon exposure of films to the rejuvenating agent.

When a fog seal is required, the asphalt emulsion shall meet the requirements of Subsection 702.07.

907-414.02.2.1--Certification and Acceptance. The Emulsion supplier shall submit a certification that the polymer modified rejuvenating emulsion meets the requirements of the specification. The certification shall be submitted to the Engineer prior to starting the work. The Engineer will sample the polymer modified rejuvenating emulsion according to Department procedures. Final acceptance of the emulsion for scrub seal will be based on the Manufacturer's Certification and testing conducted by the Department.

907-414.03--Construction Requirements. The attached sign drawings shall be used during scrub seal operations. Prior to any sealing operation, the rectangular "Loose Rock" signs shall be installed and remain in place until all sealing operations are complete. Prior to any daily sealing operation, the portable "Loose Rock" signs shall be installed in accordance with the attached drawings. Portable signs shall be installed and remain in place on a daily basis in the active sealing area. Payment for signs shown on the sign detail drawings shall be made under pay item no. 618-A, Maintenance of Traffic.

907-414.03.1--Preparation. The work shall be done in the following order: Prepare the pavement surface; apply the asphalt emulsion for scrub seal and scrub the applied emulsion with a scrub broom as specified herein; apply the aggregate, roll the aggregate, broom the aggregate with a secondary broom when specified; and sweep up and dispose of excess aggregate. Excess aggregate shall be removed from the project unless otherwise approved by the Engineer.

Prior to the scrub seal operation, the Contractor shall remove any and all vegetation within the limits of the scrub seal installation. The use of herbicides will be allowed at the discretion of the Engineer.

If used, the herbicide shall be applied at least 10 days prior to the scrub seal operation, or as directed by the manufacturer of the approved herbicide. The application of the herbicide shall be performed in accordance with all applicable regulations. Any and all fines or clean-up costs for unlawful misuse or discarding of herbicides shall be the sole responsibility of the Contractor. Mixtures and spread rates for the herbicides shall be determined by the manufacturer's specifications. Wash down of equipment or discarding of herbicides shall not enter catch basins or positive drainage facilities.

Prior to the scrub seal operation, the Contractor shall remove all existing thermoplastic striping, thermoplastic legends and raised pavement markers within the scrub seal limits. Removal shall be performed to the satisfaction of the Engineer.

Prior to the scrub seal operation, all drain inlet covers, monument covers, and all other utility covers shall be protected from the Contractor's scrub seal operations by applying a sheet of plastic over the exposed facilities, or other methods approved by the Engineer. All traces of plastic, residual emulsion and aggregate shall be removed from covered objects after the application of the scrub seal and/or prior to final inspection of the project.

Immediately prior to the scrub sealing operations, the Contractor shall sweep the entire pavement surface.

907-414.03.2--Application. The scrub seal shall be applied from edge of pavement to edge of pavement. The edges of the scrub seal application shall be maintained in a neat and uniform line. Scrub seal shall not be applied on concrete gutters or pads unless directed by the Engineer.

The application of the asphalt emulsion for scrub seal shall be applied only when the ambient and pavement temperatures are above 70ºF.

The asphalt emulsion for scrub seal shall be applied with a distributor truck at the following target rates. The actual emulsion application rate shall be determined from the surface demands and aggregate used. Any adjustments of the application rate shall be approved by the Engineer, and manufacturer's representative if necessary.

The optimum application rate of bituminous material is dependent on the chosen seal aggregate gradation as well as the condition of the pavement in which the bituminous surface treatment is to be applied. The application rate of the bituminous material may be adjusted by the Engineer based on field conditions at the time of construction. Following are target application rates for bituminous material.

Seal Aggregate Gradation	Bituminous Material	Target Application Rate (gal/yd^2)	Tolerance
Size No. 7	Emulsified Asphalt	0.33	±0.03
Size No. 8 or 89	Emulsified Asphalt	0.30	±0.03

Note: Emulsified Asphalt shall not be diluted. A sample of emulsified asphalt should be obtained from the Contractor's distributor on the first day of production and thereafter at a frequency not to exceed 1 sample per 50,000 gallons. Because the time between sampling of the emulsified asphalt and the testing of the material can affect the test results, samples should be sent to the MDOT Central Lab for testing as soon as possible.

The asphalt emulsion for scrub seal temperature when applied shall be a minimum of 140º to 180ºF. For smaller areas, the emulsion may be applied with a wand. The emulsion shall be immediately broomed to fill cracks and voids. The emulsion scrub broom shall be as described below.

Immediately following the application of the emulsion to the road surface, the material shall be scrubbed with a scrub broom for the purpose of forcing the emulsion into the existing surface and distributing the emulsion evenly over variable road surface contours.

The application of the asphalt emulsion for scrub seal and scrub broom operation shall cease 40 feet prior to the end of the application. The remaining asphalt emulsion for scrub seal shall be dragged out by the scrub broom, and the remaining emulsified material required to complete the pass shall be applied only by the distributor truck, at the specified rate.

Immediately following the scrubbing of emulsion, aggregate shall be applied at the following application rates.

Size 7 Slag, Stone, Gravel or Expanded Clay	=	0.30 ± 0.02 ft^3 / yd^2
Size 8 Expanded Clay	=	0.25 ± 0.02 ft^3 / yd^2
Size 89 Slag, Stone, or Gravel	=	0.25 ± 0.02 ft^3 / yd^2

The actual aggregate application rate shall be as required by the surface demands and the emulsion used. The rate shall be adjusted, within the specified limit, up or down so that no "bleed through" occurs during rolling.

During the first day of production and at least once a week thereafter, the application rate of the aggregate shall be verified by the Department to assure that the appropriate application rate of the aggregate is applied. The rate can be verified by placing a tarp of at least 1.0 yd^2 area on the roadway surface. After allowing the aggregate spreader to pass over the tarp, the aggregate on the tarp should be collected and weighed to determine the weight of aggregate. The measured weight should then be compared to the target weight calculated using the following formula.

$$W = 0.85(G_{sb})(U_w)(R)(A)(e)$$

Where:
W = target weight of aggregate in lbs.
G_{sb} = bulk specific gravity of aggregate
U_w = Unit weight of water at 70°F = 62.3 lbs./ft^3
R = target application rate in ft^3/yd^2
A = area of tarp in yd^2
e = air voids in loose aggregate = 0.4

G_{sb} for gravel = 2.650
G_{sb} for limestone = 2.700

Note: Bulk specific gravities of expanded clay and steel slag should be obtained from the seal aggregate supplier.

Upon determining the target weight, it should be compared to the actual measured weight. If the difference in the target weight and the actual measured weight is over 2.5 pounds, the aggregate distributor should be adjusted such that the spread rate is within the above tolerance. The above procedure shall be repeated until the spread rate is within the allowable tolerance.

If at any point during production, excessive aggregate is noted, the aggregate application rate should be verified and the spread rate adjusted. The intent is to minimize the amount of excess aggregate. Excess aggregate removed from the roadway surface after brooming shall be removed from the job site and should not be reused in the aggregate operation.

The dry aggregate shall be spread uniformly to cover the bituminous material with the quantity of mineral aggregate specified by the Engineer. All deficient areas shall be covered by additional material. All excess cover material shall be removed from the surface and stockpiled or used as directed.

A minimum of two self-propelled pneumatic-tired rollers shall be used for the required rolling of the aggregate. The pneumatic-tired rollers shall be in good working condition and actively rolling at all times during the scrub seal operation. The pneumatic-tired rollers shall be minimum 5-ton rollers. The pneumatic-tired rollers shall be operated in such a manner to prevent the dislodging of newly applied aggregate.

If specified, a fog seal will be placed at a rate of 0.11 gallons per square yard, or as directed by the Project Engineer. The fog seal shall not be placed until after final brooming.

907-414.03.3--Stockpile Sites. Sites for stockpiles of materials shall be grubbed and cleaned prior to storing the aggregates, and the ground shall be firm, smooth, and well drained.

907-414.03.4--Equipment. The following equipment shall be used for the scrub-seal operations.

A. Asphalt Distributor. The asphalt distributor for application of the emulsion shall have a full circulation spray bar that is adjustable to at least sixteen feet (16') wide in two (2) feet increments and capable of heating and circulating the emulsion simultaneously. It must have computerized rate control for adjusting and controlling the application from the cab within 0.01 gallons per square yard increments. The distributor shall also be equipped with a volume measuring device and a thermometer for measuring the emulsion temperature in the tank.

B. Scrub Broom. A scrub broom as described herein shall be used to scrub the emulsion after application. The scrub broom frame shall be constructed of metal. The scrub broom shall be attached to and pulled by the distributor truck. The scrub broom must be equipped with a means of raising and lowering the scrub broom at desired points. It shall be towable in the elevated position to the next area of construction. The weight of the broom assembly shall be such that it does not squeegee the emulsion off the roadway surface.

   The main body of the scrub broom shall have a frame size as shown in the drawing at the end of this special provision. The nearest and furthest members, paralleling the back of the distributor truck, and diagonal members shall be equipped with street brooms. The leading member and the trailing member shall have broom heads angled at 10 to 15 degrees off the centerline of the supporting member. The diagonal members shall have broom heads attached in line with the centerline of the supporting member. Each individual street broom attached to the scrub broom assembly shall be 3.5 inches wide x 6.5 inches high x 16 inches long and have stiff nylon bristles. Bristle height is to be maintained at a minimum of five inches (5"). The scrub broom shall be equipped with hinged wing assemblies attached to the main body not to exceed 4.5 feet per side, with diagonals and equipped with street brooms. The purpose of the maximum rigid frame width and the hinged wing extensions is not only for maximum width of 16 feet but to maintain the scrubbing process evenly as contours and cross-sections change across the existing road surface.

C. Aggregate Spreader. A self-propelled aggregate spreader with front discharge that can evenly distribute aggregate.

D. Roller. A minimum of two (2) pneumatic rollers weighing at least five (5) tons each.

E. Power Broom. Two (2) mechanically powered kick-brooms or vacuum type brooms.

907-414.03.5--Opening to Traffic. Unless otherwise advised, the Contractor's operations shall be schedule such that all lanes of traffic are open to the traveling public at the end of each day. Considering time needed for curing and preparation prior to opening traffic, the Contractor should not apply bituminous material two (2) hours before dusk, or longer, to allow sufficient time for bonding of the aggregates.

After the scrub seal has been rolled and the bituminous material has cured a minimum of one (1) hour, or longer if necessary to sufficiently hold the aggregate in place, the Contractor shall perform an initial brooming operation consisting of lightly sweeping excess aggregate material from the surface. After the initial brooming has been completed, public traffic will be allowed on the roadway.

Immediately the next morning, a final brooming shall be performed to remove any remaining excess aggregate material from the previous day's seal operation.

907-414.04--Method of Measurement. Scrub seal shall be measured by the square yard.

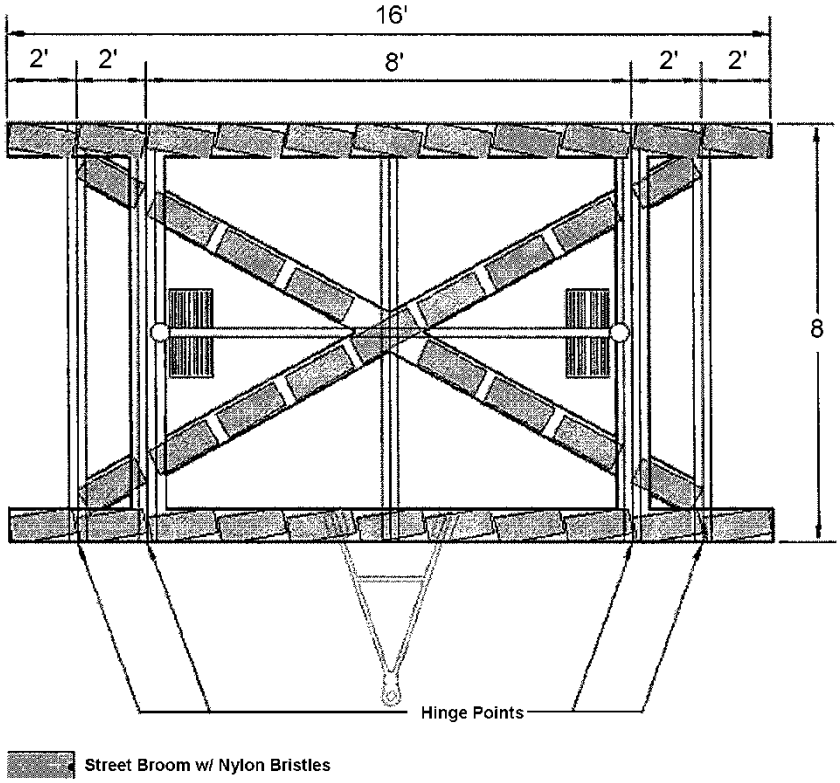
Accepted quantities for asphalt for fog seal will be measured by the gallon as prescribed in Subsection 109.01. Unless otherwise specified, distributor tank measurement will be used. The volume of material over five percent (5%) above the quantity ordered for each shot will be deducted from measured quantities, except that 15 percent will be allowed for irregular areas where hand spraying is necessary.

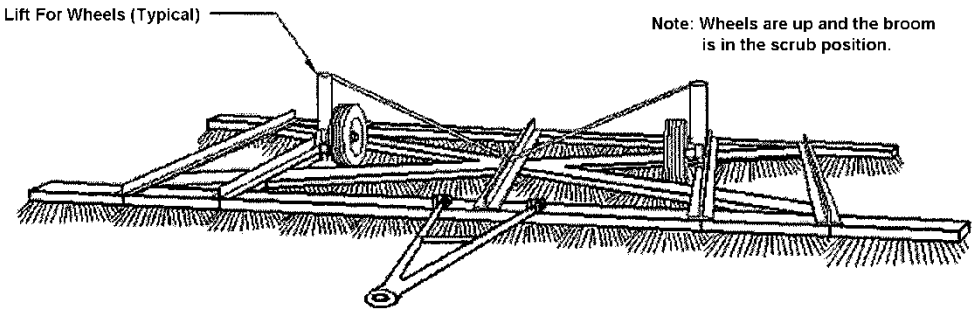
907-414.05--Basis of Payment. Scrub seal, measured as prescribed above, will be paid for at the contract bid price per square yard, which shall be full compensation for furnishing all labor, materials, equipment, temporary markers, vegetation removal, cleaning of the surface, pre-sweeping, post-sweeping, doing all the work involved in mixing, applying and protecting the polymer modified asphaltic rejuvenating scrub seal, and all incidentals necessary to complete the work.

Asphalt for fog seal will be paid for at the contract unit price per gallon, which shall be full compensation for furnishing all labor, materials, equipment, applying and protecting the fog seal, and all incidentals necessary to complete the work.

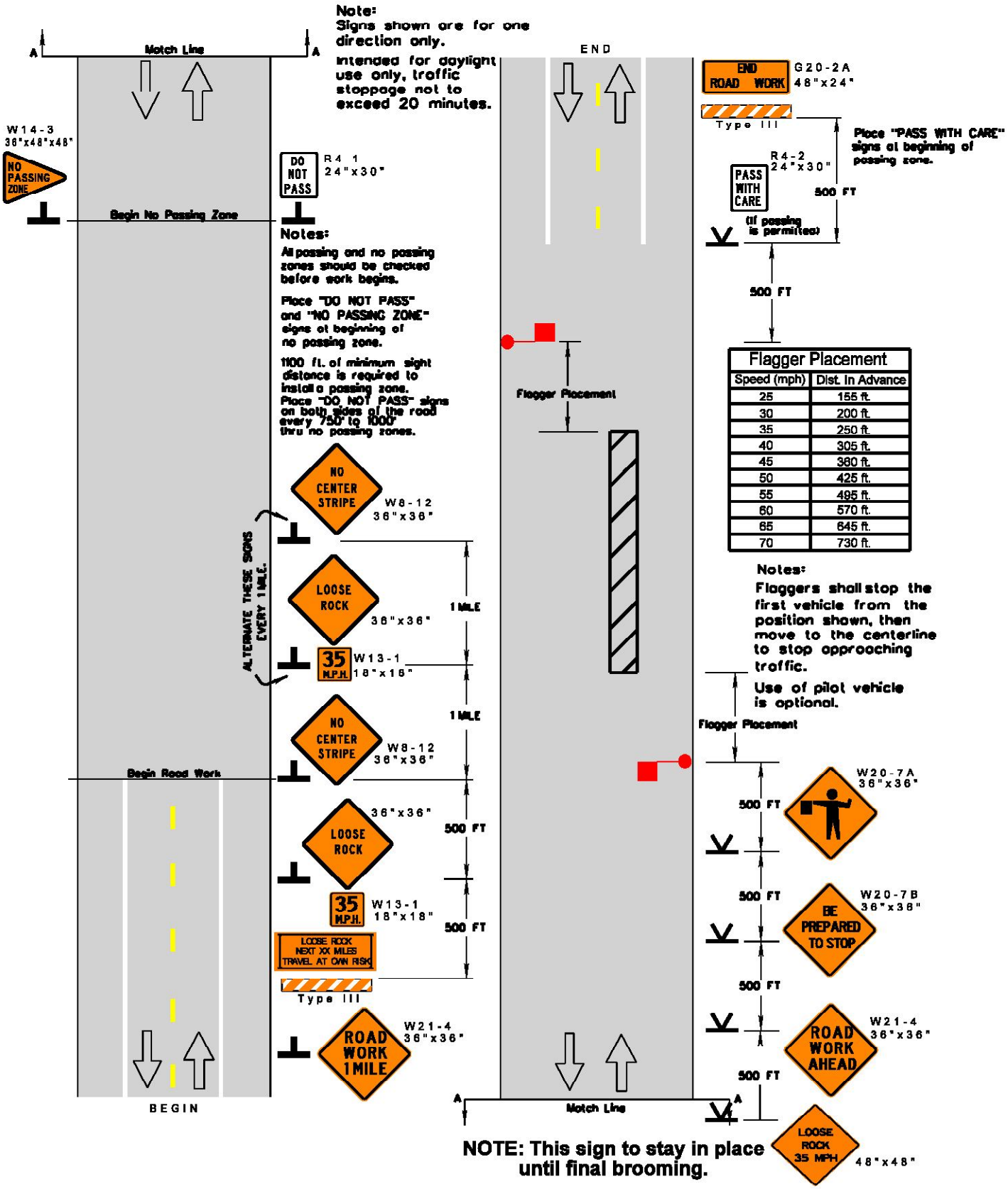
Payment will be made under:

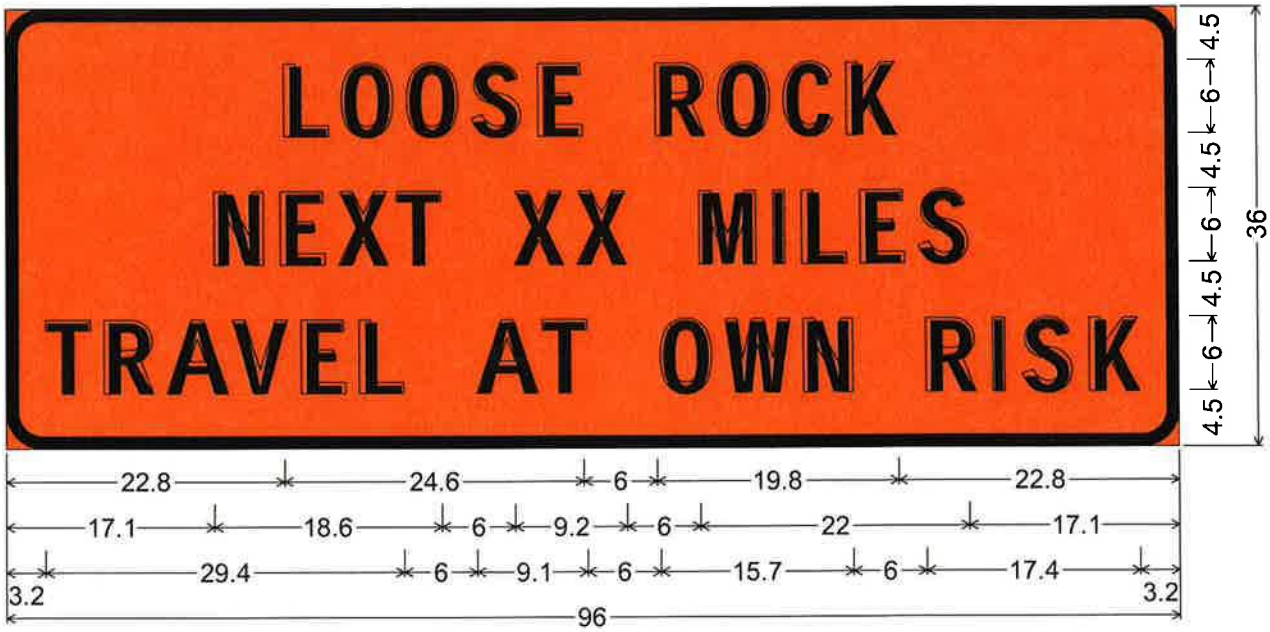
907-414-A:	Scrub Seal	- per square yard
907-414-B:	Asphalt for Fog Seal	- per gallon


16'
2'
2'
8'
2'
2'
8
Hinge Points
Street Broom w/ Nylon Bristles


Lift For Wheels (Typical)
Note: Wheels are up and the broom is in the scrub position.

Scrub Broom


Note:
Signs shown are for one direction only.
Intended for daylight use only, traffic stoppage not to exceed 20 minutes.
Match Line
A
A
W14-3
36"x48"x48"
NO PASSING ZONE
Begin No Passing Zone
DO NOT PASS
R4 1
24"x30"
Notes:
All passing and no passing zones should be checked before work begins.
Place "DO NOT PASS" and "NO PASSING ZONE" signs at beginning of no passing zone.
1100 ft. of minimum sight distance is required to install a passing zone.
Place "DO NOT PASS" signs on both sides of the road every 750' to 1000' thru no passing zones.
NO CENTER STRIPE
W8-12
36"x36"
LOOSE ROCK
36"x36"
35 M.P.H.
W13-1
18"x18"
ALTERNATE THESE SIGNS EVERY 1 MILE.
1 MILE
1 MILE
NO CENTER STRIPE
W8-12
36"x36"
Begin Road Work
36"x36"
LOOSE ROCK
500 FT
35 M.P.H.
W13-1
18"x18"
500 FT
LOOSE ROCK NEXT XX MILES TRAVEL AT OWN RISK
Type III
ROAD WORK 1 MILE
W21-4
36"x36"
BEGIN
END
Flagger Placement
END ROAD WORK
G20-2A
48"x24"
Type III
Place "PASS WITH CARE" signs at beginning of passing zone.
R4-2
24"x30"
PASS WITH CARE
(if passing is permitted)
500 FT
500 FT
Flagger Placement
Speed (mph) | Dist. In Advance
25 | 155 ft.
30 | 200 ft.
35 | 250 ft.
40 | 305 ft.
45 | 380 ft.
50 | 425 ft.
55 | 495 ft.
60 | 570 ft.
65 | 645 ft.
70 | 730 ft.
Notes:
Flaggers shall stop the first vehicle from the position shown, then move to the centerline to stop approaching traffic.
Use of pilot vehicle is optional.
Flagger Placement
500 FT
W20-7A
36"x36"
500 FT
W20-7B
36"x36"
BE PREPARED TO STOP
500 FT
W21-4
36"x36"
ROAD WORK AHEAD
500 FT
LOOSE ROCK 35 MPH
48"x48"
Match Line
A
A
NOTE: This sign to stay in place until final brooming.

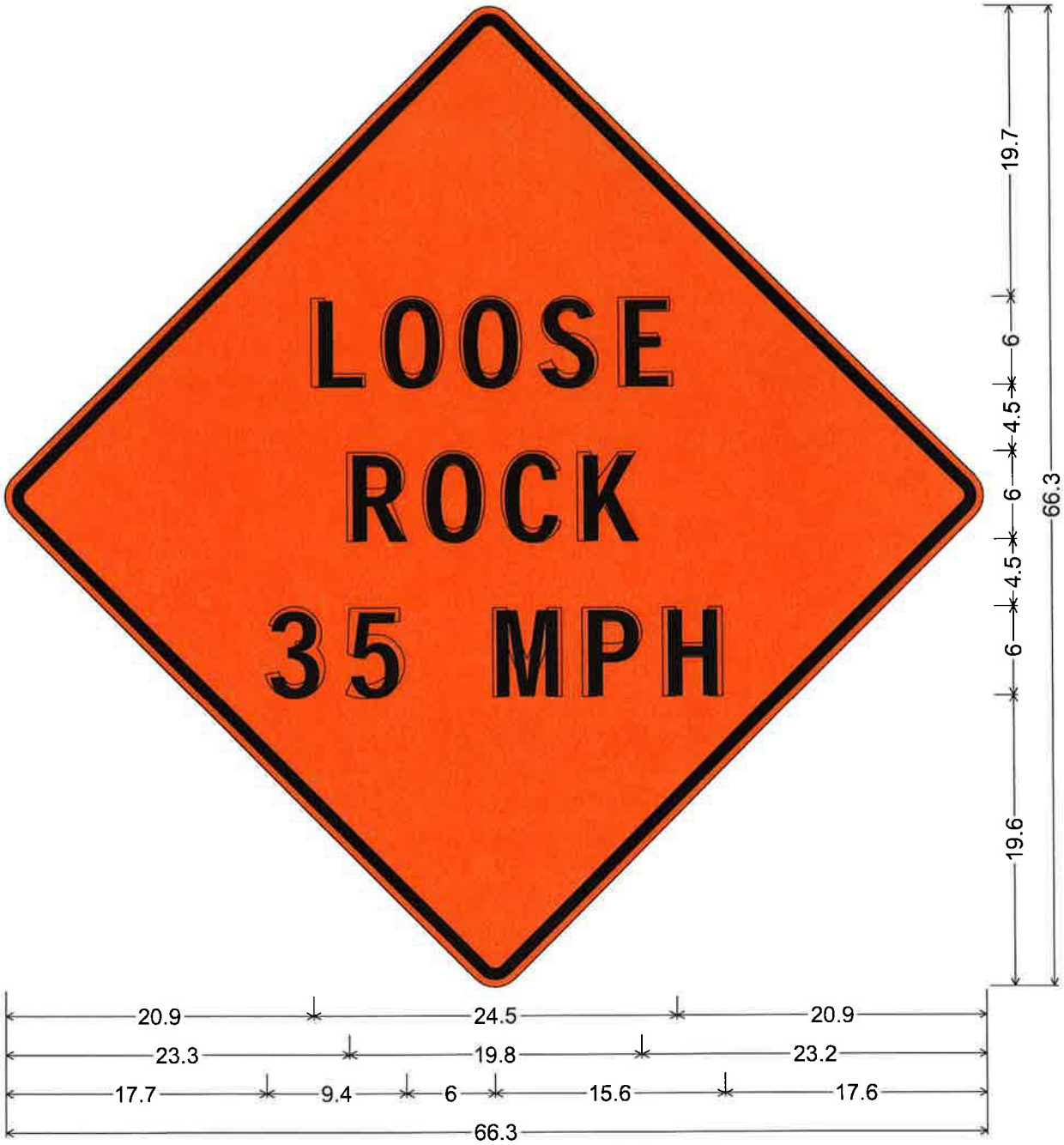


3.0" Radius, 1.0" Border, Black on Orange;
"LOOSE ROCK" D; "NEXT XX MILES" D; "TRAVEL AT OWN RISK" D;
Table of letter and object lefts.

L	O	O	S	E	R	O	C	K
22.8	27.6	33.0	38.3	43.7	53.4	58.5	63.9	69.0

N	E	X	T	X	X	M	I	L	E	S
17.1	22.5	27.3	32.1	41.7	46.9	56.9	63.0	65.3	70.1	74.9

T	R	A	V	E	L	A	T	O	W	N	R	I	S	K
3.2	8.0	13.2	18.6	24.2	29.0	38.6	44.0	53.7	59.0	65.4	75.4	80.9	83.2	88.6



48.0" across sides 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
"LOOSE" D; "ROCK" D; "35 MPH" D;
Table of letter and object lefts.

L 20.9	**O** 25.7	**O** 31.0	**S** 36.4	**E** 41.8
R 23.3	**O** 28.4	**C** 33.8	**K** 38.9	
3 17.7	**5** 23.1	**M** 33.1	**P** 39.2	**H** 44.6

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-619-6 **CODE: (SP)**

DATE: **03/21/2018**

SUBJECT: **Temporary Portable Rumble Strips**

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. After Subsection 619.02.15 on page 472, add the following.

907-619.02.16--Temporary Portable Rumble Strips. Temporary portable rumble strips shall be RoadQuake manufactured by PSS and meet the following requirements:

- capable of being installed without adhesives or bolts,
- have a minimum weight of 100 pounds,
- have a minimum overall length of 11 feet,
- have a minimum width of 12 inches, and
- have a maximum height of 3/4 inch.

Temporary portable rumble strips shall be installed in accordance with the attached details, or as directed by the Engineer.

907-619.03--Construction Requirements. After Subsection 619.03.11 on page 476, add the following.

907-619.03.16--Temporary Portable Rumble Strips. Temporary portable rumble strips shall be placed at locations shown on the traffic control plans, attached drawing, or as directed by the Engineer. The rumble strips shall be removed when lane closures are removed, relocated when lane closures are relocated, or as directed by the Engineer.

Prior to placement of the rumble strips, the roadway shall be cleaned to be free of dust, sand, and other materials that may cause slippage. The minimum roadway temperature at the time of installation shall be in accordance with manufacturer recommendations.

A minimum of three (3) temporary portable rumble strips shall be arranged in an array. The spacing of temporary portable rumble strips in each array shall be on 15-foot centers. One array of three (3) strips shall be used in each lane. The rumble strips shall be regularly monitored and maintained to ensure they stay in place under traffic.

907-619.04--Method of Measurement. At the end of Subsection 619.04 on page 478, add the following.

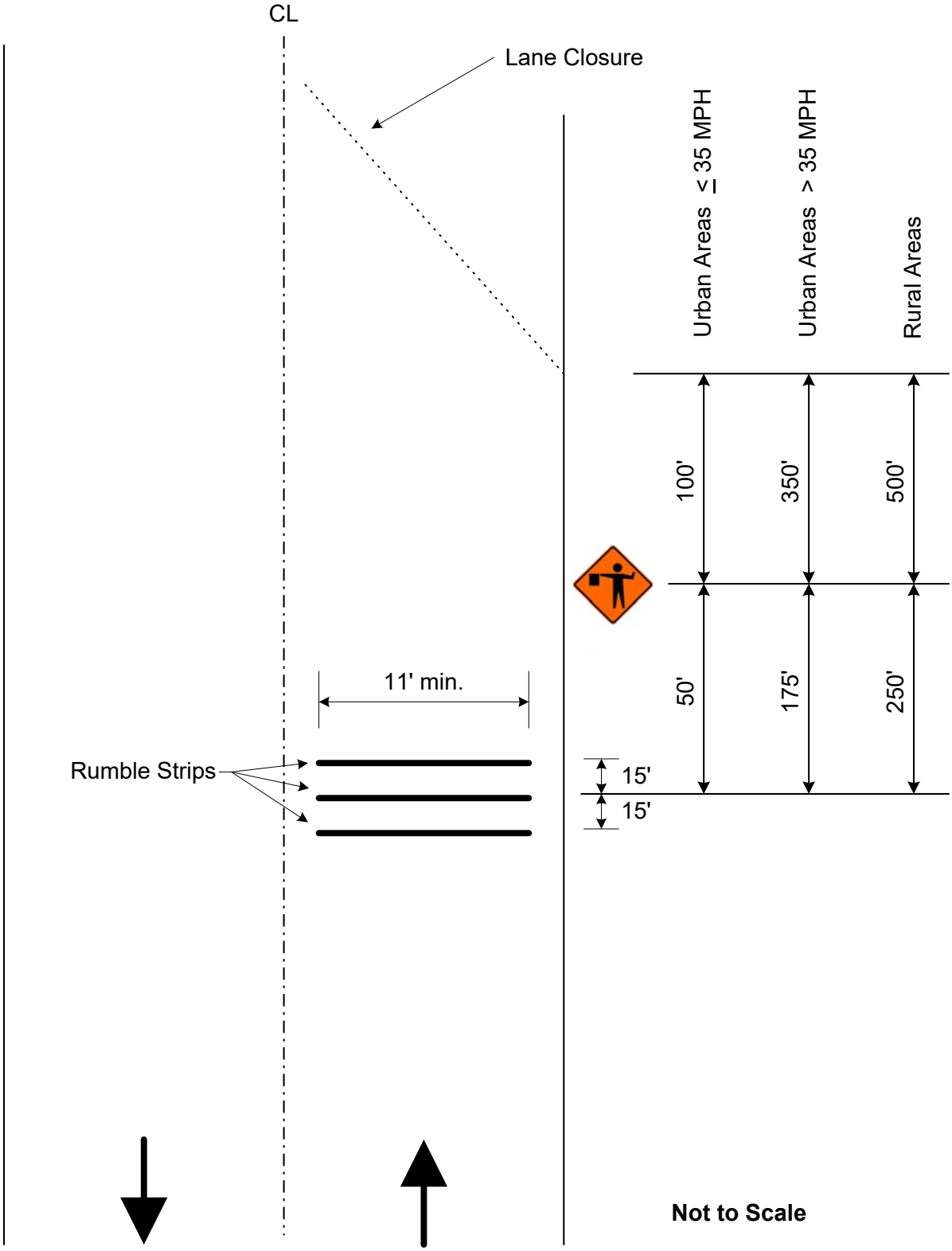
Temporary Portable Rumble Strips will be measured for payment by the linear foot only when a pay item for temporary portable rumble strips is included in the contract. Otherwise, temporary portable rumble strips will be included in the cost of pay item 618-A, Maintenance of Traffic. The quantity of temporary portable rumble strips will be the length of rumble strips approved by the Engineer to be in-place on the project at any one time.

907-619.05--Basis of Payment. After the fifth paragraph of Subsection 619.05 on page 478, add the following.

Temporary Portable Rumble Strips measured as prescribed above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for cleaning the roadway surface, installing the rumble strips, maintenance and repair of the strips, cleaning and resetting of the strips, removal and replacement, and for all labor, equipment, tools, and incidentals necessary to complete the work.

After the last pay item listed on page 480, add the following.

907-619-B: Temporary Portable Rumble Strips - per linear foot



Detail of Temporary Portable Rumble Strips

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-624-1 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Inverted Profile Thermoplastic Traffic Stripe

Section 907-624, Inverted Profile Thermoplastic Traffic Stripe, is hereby added to and made part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

907-624.01--Description. Inverted profile thermoplastic pavement markings consists of furnishing materials and placing inverted profile thermoplastic pavement markings in reasonably close conformity with these specifications and the details shown on the plans or established.

Inverted profile thermoplastic pavement markings, high contract, shall consist of furnishing materials and placing inverted profile thermoplastic pavement markings over a black thermoplastic pavement marking in order to enhance the marking's visibility.

907-624.02--Materials.

907-624.02.1--General. The inverted profile thermoplastic marking material shall consist of an alkyd/maleic or hydrocarbon based formulation. The material shall be so manufactured as to be applied to the pavement in a molten form, with internal and surface application of glass spheres, and upon cooling to normal pavement temperature, shall produce an adherent, reflectorized pavement marking of specified thickness and width, capable of resisting deformation.

Materials shall be obtained from approved sources as listed on the Department's "List of Approved Sources" for Inverted Profile Thermoplastic Pavement Marking Materials. The material shall not scorch, break down, discolor, or deteriorate when held at the application temperature for four hours or when reheated four times to the application temperature. Temperature-vs-viscosity characteristics of the plastic material shall remain constant when reheated four times, and shall be the same from batch to batch.

The thermoplastic material shall be a product especially compounded for pavement markings. The pavement markings shall maintain their original dimension and shall not smear or spread under normal traffic at temperatures below 140ºF. The markings shall have a uniform cross section. Pigment shall be evenly dispersed throughout its thickness. The exposed surface shall be free from tack and shall not be slippery when wet. The material shall not lift from pavement in freezing weather. Cold ductility of the material shall be such as to permit normal movement with the pavement surface without chipping or cracking.

Black thermoplastic compound for the placement of inverted profile thermoplastic pavement markings, high contract, shall consist of a hydrocarbon or alkyd/maleic based formulation.

The manufacturers of the thermoplastic compound, glass beads and epoxy primer sealer shall furnish to the Engineer three copies of certified test reports showing results of all tests specified herein and shall further certify that the materials meet all requirements. The Contractor shall provide the warranty as specified herein to the Engineer.

907-624.02.2--Inverted Profile Thermoplastic Material. The thermoplastic material shall consist of homogeneously mixed pigments, fillers, resins and glass beads, and shall be available in both white and yellow. The material shall be free from all skins, dirt, and foreign objects**.** Materials shall conform to AASHTO M 249 with the following modifications:

907-624.02.2.1--Intermixed Glass Beads. The thermoplastic material shall contain a minimum of 40 percent Class H glass beads by weight. Class H glass beads shall meet the requirements of ASTM D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +20 sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

U. S. Standard Sieve	% Passing
12	100
14	95 - 100
16	80 - 100
18	30 - 100
20	15 - 100
30	10 - 100
50	0 - 50
100	0 - 5

907-624.02.2.2--Binder Content. The binder content of the thermoplastic material shall be 19 percent minimum.

907-624.02.2.3--Titanium Dioxide. The titanium dioxide shall meet ASTM D 476, Type II, Rutile grade - 10 percent minimum titanium content.

907-624.02.2.4--Yellow Pigment. The yellow pigment for the yellow thermoplastic material shall be five (5) percent minimum.

907-624.02.2.5--Specific Gravity. The specific gravity of the thermoplastic pavement marking material shall not exceed 2.35.

907-624.02.2.6--Flow Characteristics.

907-624.02.2.6.1--Flowability. After heating the thermoplastic material for four (4) hours ±5 minutes at 425 ±3ºF and testing flowability, the white thermoplastic shall have a maximum percent residue of 22 percent and the yellow thermoplastic shall have a maximum residue of 24 percent.

907-624.02.2.6.2--Flow Resistance. The material shall exhibit a maximum flow of 10%. The material's ability to form ribs on the markings shall be evaluated by casting a disc of material approximately 3.5 inches wide by 1.0 inch long by and 0.60 inch deep. After the material is cooled to ambient temperature, measure the exact height. The material shall then be stored at 190ºF for four (4) hours. After the material is cooled to ambient temperature, re-measure the exact height and express the flow resistance as a flow percentage.

907-624.02.2.7--Reflectivity. The initial reflectance for the in-place marking shall have a minimum reflectance value of 450 mcd/fc/sq. ft. for white and 350 mcd/fc/sq. ft. for yellow, when measured with a Mirolux Ultra 30 retroreflectometer, or approved equal.

907-624.02.2.8--Wet Reflectivity. The initial reflectance for the in-place marking when wet shall have a minimum reflectance value of 200 mcd/fc/sq. ft. for white and 175 mcd/fc/sq. ft. for yellow, when measured with an approved retroreflectometer. The stripe shall be wetted utilizing a pump type sprayer for five (5) seconds. After 30 seconds, place the retroreflectometer on the stripe and measure the reflectance.

907-624.02.2.9--Inverted Profile. The thermoplastic pavement marking material shall be applied to have individual profiles having a minimum height of 0.140 inches with the recessed inverted profiles having a thickness of 0.025 to 0.050 inches. The profiles shall be well defined, spaced approximately one (1) inch apart, and not excessively run back together.

907-624.02.3--Black Pavement Marking Material for High Contrast Inverted Profile Pavement Markings.

907-624.02.3.1--General. In the molten state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety data sheets for the product.

The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during three reheating processes. There shall be no obvious change in color of the material as a result of up to three reheatings, or in maintaining the material at application temperature up to an aggregate time of four (4) hours, or from batch to batch. The maximum elapsed time after application at which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately 68 ±5°F. The applied stripe shall remain free from tack and shall not lift from the pavement under normal traffic conditions within a road temperature range of -20°F to 150°F. The stripe shall maintain its original dimensions and placement. Cold ductility of the material shall be such as to permit normal dimensional distortion as a result of tire impact within the temperature range specified.

The material shall provide a stripe that has a uniform thickness throughout its cross section.

907-624.02.3.2--Binder. The binder shall be hydrocarbon or alkyd/maleic based. The binder shall consist of a homogeneous mixture of pigment, fillers, resins, waxes and plasticizers. The total

binder content shall be well distributed throughout the compound. The binder shall be free from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 19 percent minimum by weight of the thermoplastic compound.

907-624.02.3.3--Pigment. The pigment used for black pavement marking compound shall be as required and shall be uniformly distributed throughout the marking compound.

907-624.02.3.4--Filler. The filler to be incorporated with the resins shall be a white calcium carbonate, silica or any approved substitute.

907-624.02.3.5--Specific Gravity. The specific gravity of the marking compound shall not exceed 2.0.

907-624.02.3.6--Softening Point. After heating the marking compound for 4 hours ±5 minutes at 375 ±3°F and testing in accordance with ASTM E 28, the material shall have a minimum softening point of 180°F as measured by the ring and ball method.

907-624.02.3.7--Tensile Bond Strength. After heating the marking compound for 4 hours ±5 minutes at 375 ±3°F, the tensile bond strength shall exceed 180 psi when tested in accordance with ASTM D 4806. The material shall be applied to unprimed, sandblasted Portland cement concrete block at a thickness of 0.0625-inch and at a temperature of 375 ±3°F. The test shall be conducted at room temperature.

907-624.02.3.8--Impact Resistance. After heating the marking compound for 4 hours ±5 minutes at 375 ±3°F, the impact resistance shall be a minimum of 50 inch-pounds minimum when tested in accordance with ASTM D 2794. No cracks or bond loss shall occur when a 0.0625-inch thick film drawdown is made at 375 ±3°F on an unprimed sandblasted Portland cement concrete block. The sample is tested with a male indentor 5/8-inch and no female Die at room temperature.

907-624.02.3.9--Identification. Each package of material shall be stenciled with the manufacturer's name, the type of material and specification number, the month and year the material was packaged and lot number. The letters and numbers used in the stencils shall be a minimum of 1/2 inch in height.

907-624.02.3.10--Packaging. The material shall be packaged in suitable containers that will not adhere to the product during shipment and storage. The container of pavement marking material shall weigh approximately 50 lbs. Each container shall designate the color, type of resin, type of application and user information. The label shall warn the user that the material shall be heated in the range of 350° to 425°F.

907-624.02.3.11--Storage Life. The material shall meet the requirements of this specification for a period of one year. The material must also meet uniformly with no evidence of skins or unmelted particles for this one-year period. The manufacturer shall replace any material not meeting the above requirements.

907-624.02.3.12--Certifications. The material manufacturer shall furnish a certified copy of material test reports to the Engineer.

907-624.02.4--Drop-On Glass Beads. Drop-on glass beads shall be separated into two (2) classes, as follows:

907-624.02.4.1--Class G Glass Beads. Class G glass beads shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO M 247, Section 4.4.2 and shall exhibit the following characteristics:

- **Color and Clarity:** The glass beads shall be colorless and clear, and shall be free of carbon residues.
- **Index of Refraction:** minimum 1.50
- **Roundness**: The glass beads shall have a minimum of 80% true spheres per screen for the two highest sieve quantities, determined visually, and a maximum of 3% angular particles per sieve, determined visually. The remaining sieves shall have a minimum of 75% true spheres, determined visually per aspect ratio using microfiche reader.
- **Air Inclusions:** 10% maximum
- **Specific Gravity:** The specific gravity of the glass beads shall be a minimum of 2.50.
- **Gradation:** The gradation of Class G glass beads shall be as follows:

U. S. Standard Sieve	% Passing
12	100
14	100 - 95
16	100 - 80
18	100 - 20
20	90 - 20
30	100 - 50
Pan	100 - 90

All Class G glass beads shall be coated with an adhesion promoting coating.

907-624.02.4.2--Class H Glass Beads. Class H glass beads shall meet the requirements of ASTM D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +20 sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

U. S. Standard Sieve	% Passing
16	99 - 100
20	75 - 100
30	55 - 95
50	10 - 35
100	0 - 5

907-624.03--Construction Requirements.

907-624.03.1--Equipment. The application equipment shall be specifically designed for placing thermoplastic material in a hot molten state on the pavement surface utilizing a pressure type application method. The thermoplastic stripe shall be formed by a die that is allowed to drag along in proximity with the pavement surface. The die is pulled forward by a special linkage that will allow it to automatically level itself as to float and remain parallel with the pavement surface. The traffic stripe shall be formed by reason that the hot thermoplastic material is forced under pressure through four sides to the die onto the pavement surface. The top of the die shall be enclosed and provide entry means for the hot molten thermoplastic material to enter the die cavity. The bottom of the die shall contain a movable door that is remote controlled so as to start or stop the flow of thermoplastic material onto the pavement surface. When the movable door is open, thermoplastic material can flow through the die and will apply a thermoplastic stripe that will be formed rearward of the advancing die. The pavement surface shall be at the bottom of the die enclosure. Thermoplastic material shall be fed to the die under pressure through flexible oil-jacketed stainless steel hoses. The thermoplastic material must be either pumped or fed from a pressure vessel to the die under pressure in order to obtain the proper adhesion with the pavement surface.

The system shall consist of a low pressure drop-on type glass bead gun, (bead coat #1). The thermoplastic die shall be oil-jacketed on four (4) sides and is formed from a single solid block of steel. The glass bead gun shall dispense glass beads onto the hot thermoplastic stripe from a height of approximately one (1) inch above the pavement surface. The point at which the glass beads strike the surface of the stripe shall be approximately three inches (3") behind the strike point of the thermoplastic material itself. This reflective bead coat #1 shall utilize Class G glass beads as specified herein, and shall provide a surface coating of 50 percent of the thermoplastic stripe surface. Of this 50 percent stripe coverage, at least 50 percent of the beads shall be embedded to a depth of 60 percent of their diameter.

A second curtain coater, low pressure drop-on type glass bead gun capable of applying a continuous sheet or ribbon of glass beads, shall follow at an interval of approximately 10 inches behind the first bead gun. This second glass bead gun shall apply bead coat #2 which will form a continuous drop-on coat of Class H glass beads immediately in front of the profiling device. This second curtain of glass beads shall have a low impact speed so that they are not forced into the stripe under pressure.

A special rotatable wheel profiling device shall be located approximately eight (8) inches behind bead gun #2. This rotatable wheel device shall be approximately seven (7) inches in diameter and shall have a plurality of spaced projections located around its circumference. The profiling device shall be wider than the stripe being applied in order that the stripe shall be adequately covered. The projections on the rotatable profiling device shall have an angular profiling surface set at an angle to the pavement surface. The rotatable profile device shall be mounted with an automatic leveling device to the same carriage assembly as the thermoplastic gun. This is required so that a traffic stripe of accurate and uniform definition can be obtained. The inverted profile grooves shall be pressed into the hot molten thermoplastic stripe within one (1) second of the thermoplastic material application in order to insure proper bead adhesion to the stripe. Using rollers to place grooves in the traffic stripe utilizing a separate vehicle or grooves that are not pressed within one

(1) second of the thermoplastic material application will not be allowed. To insure that no thermoplastic material adheres to the wheel as it rotates and profiles the stripe, a small air atomizer water jet shall apply a thin mist coat of water to the rotatable profile wheel. It is the intent of this specification that a minimum amount of water be used and that no water puddles greater than ¼ inch in diameter be allowed to accumulate on the pavement surface in proximity to the freshly placed stripe. Excess water on the pavement surface can cause bond failure of the thermoplastic material.

All parts of the thermoplastic holding tank including manifolds, hoses, pipes, dies, etc., shall be oil-jacketed to insure accurate temperature control. The thermoplastic material shall be preheated in kettles designed specifically for that purpose. Each kettle of preheated thermoplastic material shall be properly mixed and heated to the correct application temperature. The preheated material shall then be fed to the thermoplastic gun for application.

The striping machine shall contain enough glass beads and water to apply one full kettle of thermoplastic material.

907-624.03.2--Cleaning of Pavement Surface. Immediately before application, the areas to receive markings shall be cleaned thoroughly using equipment capable of cleaning without damaging the pavement surface. This will include, but not be limited to, all vegetation, loose soil, oils, and other debris. On areas of pavement cured with compound, the membrane shall be removed completely by "shot" blasting, sand blasting or other approved method. Striping shall follow as closely as practical after the pavement surface has been cleaned.

907-624.03.3--Application Over Existing Striping. Where shown on the plans or directed by the Engineer, the existing traffic stripe shall be removed by grinding or sandblasting. When placing inverted profile thermoplastic pavement markings on existing pavement that has more than one light coat (pavement not showing through stripe) of striping material, the existing stripe shall be removed to the point that 80 percent of the pavement surface is visible.

Removal of existing stripe will be paid for as a separate item of work.

Where unsatisfactory striping performed by the Contractor must be removed and replaced in accordance with these specifications, the Contractor shall use the removal method described above. No payment will be made for removal or replacement of the Contractor's unsatisfactory striping.

907-624.03.4--Surface Conditions. When placing inverted profile thermoplastic pavement markings, no striping shall be permitted when the pavement surface temperature is less than 60ºF. A non-contact infrared pyrometer shall be furnished by the Contractor for use by the Engineer for verification of the temperature. Striping shall not be performed when there is moisture on the pavement surface or when winds exceed 12 mph. When unseen moisture is suspected to be present, a moisture test shall be performed. The test shall be as follows:

1) Place a piece of roofing felt on the pavement surface.
2) Pour 0.5 gallon of thermoplastic material at application temperature onto the paper.

3) After two (2) minutes, lift the paper and inspect to see if moisture has been drawn from the pavement.
4) If moisture is present, striping is not to begin until the surface is moist free.

Documentation of weather and pavement conditions shall be recorded as part of completing the MDOT Inverted Profile Thermoplastic Pavement Marking Inspectors Report.

907-624.03.5--Application. Prior to the placement of pavement markings, the Contractor shall furnish the Engineer three copies of the manufacturer's warranty stating that the manufacturer will guarantee the pavement marking to meet the requirements of this specification.

The thermoplastic material shall be preheated and thoroughly mixed. The application temperature of the thermoplastic material shall be between 400ºF and 430ºF. A digital thermometer complete with a 24-inch probe shall be furnished by the Contractor for use by the Engineer for verification of the temperature.

When measured at the highest point of the profile, the cold thickness of the in-place thermoplastic stripe shall be a minimum of 0.140 inch for Inverted Profile Thermoplastic Pavement Markings. The thickness of the thermoplastic material in the bottom of the profiles shall range from 0.025 to 0.050 inch. The individual profiles shall be located transversely across the stripe at intervals of approximately one (1) inch. The bottoms of these intervals shall be between 3/32 inch and 5/16 inch wide. In order to drain water and to reflect light, it is normal for the top surface of the inverted profiles to be irregular. The application rate of thermoplastic material for Inverted Profile Thermoplastic Pavement Markings shall be a minimum of 2700± pounds per mile for a continuous 6-inch stripe.

The application rate for Class G glass beads (bead coat #1) shall be 300± pounds per mile for 6-inch continuous stripe.

The application rate for Class H glass beads (bead coat #2) shall be 300± pounds per mile for 6-inch continuous stripe.

The thickness of the striping materials shall be verified periodically (at least every 1320 feet) and any thickness more than five (5) percent under the designated thickness shall be reworked. A consistent, uncorrected under-run will not be allowed and the Contractor will be required to install the specified minimum thickness of 0.140 inch. A wet thickness gauge and cold thickness gauge shall be furnished by the Contractor for use by the Engineer for the verification of film thickness.

When striping over existing painted stripe (one light coat), on old oxidized asphalt, on all concrete surfaces or on asphalt surfaces when ambient temperatures are below 70ºF, a two component epoxy primer sealer shall be used and installed as recommended in writing by the thermoplastic material manufacturer. The epoxy primer sealer shall be EX255/EX256 as manufactured by Crown Paint Company of Oklahoma City, Oklahoma, or approved equal. The Contractor shall furnish certification of compatibility of the epoxy primer sealer to be used with the thermoplastic material supplied. If an alternate epoxy primer sealer to the EX255/EX256 is used, the Contractor

shall furnish a mill analysis and proof of adequate performance of the alternate epoxy primer sealer when used with thermoplastic pavement markings.

907-624.03.6--Inverted Profile Thermoplastic Traffic Stripe, High Contrast. Before applying the black pavement marking material, the Contractor shall remove any dirt, glaze, grease or any other material that would reduce the adhesion of the thermoplastic to the pavement.

The pavement marking material shall be installed in a molten state by the spray method at a minimum temperature of 350°F and a maximum temperature of 425°F. Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the thermoplastic gun, maintain the material in the molten state.

The pavement marking materials shall not be applied when air and pavement surface temperatures are below 60°F or when the surface of the pavement contains any evidence of moisture.

The pavement marking material shall be applied at a thickness of not less than 0.040-inch.

The equipment used to install hot applied pavement marking material shall provide continuous mixing and agitation of the material while maintaining a minimum temperature exceeding 400°F. A strainer shall be in place between the main material reservoir and the gun to prevent accumulation and clogging. The equipment shall be constructed for easy accessibility to parts requiring cleaning and maintenance.

After the black thermoplastic pavement markings are applied, inverted profile thermoplastic markings shall be placed over the black thermoplastic pavement markings in accordance with the specifications and to the dimensions and details shown on the plans or established.

907-624.03.7--Warranty. The manufacturer shall warrant that the inverted profile thermoplastic markings will meet the minimum performance level of 150 mcd/fc/sq. ft. dry and 75 mcd/fc/sq. ft. wet for a period of 48 months from the date of final inspection when exposed to normal roadway conditions regardless of the average daily traffic. Failure to meet this requirement will result in the total replacement of the portion of the stripe shown to be below these minimums. All costs of labor, material and other incidentals necessary for the replacement of unacceptable pavement markings shall be at no additional costs to the State.

Compliance will be determined by an average brightness reading over a minimum zone marking length of 300 linear feet, using an approved reflectometer. The zone of measurement referred to includes centerline stripe, edge lines and skip lines.

Performance Requirements:	**White**		**Yellow**	
	Dry	**Wet**	**Dry**	**Wet**
Initial Reflectivity, mcd/fc/sq. ft.	450	200	350	175
48-Month Retained Reflectivity	150	75	150	75

The measurement procedure for this warranty will entail a visual night inspection by a manufacturer representative and a MDOT representative to identify areas of the installation, which appear to be below the specified minimum, warranted reflectance value. All reflectance measurements for dry conditions shall be made on a clean dry surface at a minimum temperature of 40°F. All reflectance measurements for wet conditions shall be made using the setting conditions of Subsection 907-624.02.2.8 at a minimum temperature of 40°F.

Measurement intervals for installations with areas less than, or equal to, three (3) miles shall be at a minimum of three (3) check points for each zone. These check points should include the start point, approximate mid-point and the end point.

Measurement intervals for installations with areas greater than three (3) miles shall be at a minimum of three (3) check points, one at the start point, one at the end point and additional measurements spaced at 3-mile intervals between the start and end points of the area in question.

The number of measurements at each check point for each zone will be as follows:

(A) Skip Lines: Eighteen (18) measurements, distributed over six (6) skip lines, shall be made at each check point.

(B) Center Lines and/or Edge Lines: Eighteen (18) measurements shall be made over 300 linear feet of continuous stripe.

When taking reflectivity measurements, the value of the measurement shall be determined by averaging three measurements; one at the left edge of the stripe, one at the center of the stripe and one at the right edge of the stripe.

In addition, the reflectance values measured at each check point shall be averaged by zone to determine conformance to the minimum warranted reflective values.

907-624.04--Method of Measurement. Inverted profile thermoplastic traffic stripe of the type specified 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 and edge stripes will be the horizontal length computed along the stationed control line. Inverted profile thermoplastic detail traffic stripe will be measured by the linear foot from end-to-end of individual stripes. Measurements will be made along the surface of each stripe and will exclude skip intervals where skips are specified. Stripes more than six (6) inches in width will be converted to equivalent lengths of six-inch widths.

907-624.05--Basis of Payment. Inverted profile thermoplastic traffic stripe, measured as prescribed above, will be paid for at the contract unit price per mile or linear foot, as applicable, which shall be full compensation for completing the work.

Payment will be made under:

907-624-A:	6" Inverted Profile Thermoplastic Traffic Stripe, Skip White *	- per linear foot or mile
907-624-B:	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White *	- per linear foot or mile
907-624-C:	6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow *	- per linear foot or mile
907-624-D:	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow *	- per linear foot or mile
907-624-E:	Inverted Profile Thermoplastic Detail Traffic Stripe, Color *	- per linear foot

* High Contrast may be specified

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-899-1 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Railway-Highway Provisions

Section 907-899, Railway-Highway Provisions, is hereby added to and made part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows:

SECTION 907-899--RAILWAY-HIGHWAY PROVISIONS

907-899.01--Description. This special provision addresses the Contractor's involvement with railroad flagging, Contractor Safety Orientation, Contractor Background Investigation, Contractor Roadway Worker on Track Safety Program and Safety Action Plan, and any other requirements set forth by the Railroad and any attached Exhibits.

Prior to bidding, the Contractor shall read and comply with the requirements of the Railroad and any attached Exhibits. The Contractor shall contact the Railroad concerning insurance coverage requirements, Railroad flagging costs, Contractor Safety Orientation, Contractor Background Investigation, Contractor Roadway Worker on Track Safety Program and Safety Action Plan, and any other requirements set forth by the Railroad and any attached Exhibits. In case the railroad requires coverage over and above that required by the Standard Specifications, the railroad requirements shall be met.

If in the opinion of the RAILROAD, the presence of an authorized representative of the RAILROAD is required to supervise the same, the RAILROAD shall render bills to the Contractor for all expenses incurred by it for such supervision. This includes all labor costs for flagmen or cable locate supplied by the RAILROAD to protect RAILROAD operation, and for the full cost of furnishing, installation and later removal of any temporary supports for said tracks, as the RAILROAD's Chief Engineer's Office may deem necessary.

It will be the Contractor's responsibility to pay all bills associated with the Railroad requirements and any attached Exhibits.

A cable locate of RAILROAD owned facilities may be required to identify and protect Signal & Communication cables that have been installed to provide power, signal control, wayside communications. These cables are vital to a safe and reliable railway operation. The cable locate will be performed by a qualified RAILROAD employee.

Outside Contractors are prohibited from driving on, along, or across any track that does not have a RAILROAD installed crossing. They may utilize an existing public crossing. The practice of allowing rubber tired equipment to operate over track with no crossing has been banned.

The Contractor shall complete and process any required forms addressed by the Railroad or any attached Exhibits. The Contractor shall not commence or carry on any form of work on, under, above or within the designated distance from the Railroad track prior to getting approval from the Railroad.

907-899.02--Blank.

907-899.03--Construction Requirements. The Contractor shall read and comply with the requirements of the Railroad and any attached Exhibits.

907-899.04--Method of Measurement. Railway-highway provisions will be measured as a unit lump sum quantity. Measurement for payment will be in accordance with the following schedule:

a) On the first estimate, twenty five percent (25%) of the amount bid for Railway Highway Provision will be paid.
b) When twenty five percent (25%) of the original contract amount is earned from all direct pay items, fifty percent (50%) of the amount bid for Railway Highway Provision will be paid.
c) When fifty percent (50%) of the original contract amount is earned from all direct pay items, one hundred percent (100%) of the amount bid for Railway Highway Provision will be paid.

907-899.05--Basis of Payment. Railway-highway provisions, measured a prescribed above, will be paid for at the contract lump sum price, which price shall be payment in full for all insurance coverage requirements, railroad flagging costs, Contractor safety orientation, Contractor background investigation, Contractor safety programs and plans, and any other requirements set forth by the Railroad and any attached Exhibits, and other incidentals necessary to complete the requirements of this work.

Payment will be made under:

907-899-A: Railway-Highway Provisions - lump sum

S E C T I O N 9 0 5 - P R O P O S A L

Date _____

Mississippi Transportation Commission
Jackson, Mississippi

Sirs: The following proposal is made on behalf of _____
_____ of _____
_____
for constructing the following designated project(s) within the time(s) hereinafter specified.

The plans are composed of drawings and blue prints on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

The Specifications are the current Standard Specifications of the Mississippi Department of Transportation approved by the Federal Highway Administration, except where superseded or amended by the plans, Special Provisions and Notice(s) to Bidders attached hereto and made a part thereof.

I (We) certify that I (we) possess a copy of said Standard and any Supplemental Specifications.

Evidence of my (our) authority to submit the Proposal is hereby furnished. The proposal is made without collusion on the part of any person, firm or corporation. I (We) certify that I (we) have carefully examined the Plans, the Specifications, including the Special Provisions and Notice(s) to Bidders, herein, and have personally examined the site of the work. On the basis of the Specifications, Special Provisions, Notice(s) to Bidders, and Plans, I (we) propose to furnish all necessary machinery, tools, apparatus and other means of construction and do all the work and furnish all the materials in the manner specified. I (We) understand that the quantities mentioned herein are approximate only and are subject to either increase or decrease, and hereby propose to perform any increased or decreased quantities of work at the unit prices bid, in accordance with the above.

I (We) acknowledge that this proposal will be found irregular and/or non-responsive unless a certified check, cashier's check, or Proposal Guaranty Bond in the amount as required in the Advertisement (or, by law) is submitted electronically with the proposal or is delivered to the Contract Administration Engineer prior to the bid opening time specified in the advertisement.

INSTRUCTION TO BIDDERS: Alternate and Optional Items on Bid Schedule.

1. Two or more items entered opposite a single unit quantity WITHOUT DEFINITE DESIGNATION AS "ALTERNATE ITEMS" are considered as "OPTIONAL ITEMS". Bidders may or may not indicate on bids the Optional Item proposed to be furnished or performed WITHOUT PREJUDICE IN REGARD TO IRREGULARITY OF BIDS.
2. Items classified on the bid schedule as "ALTERNATE ITEMS" and/or "ALTERNATE TYPES OF CONSTRUCTION" must be preselected and indicated on bids. However, "Alternate Types of Construction" may include Optional Items to be treated as set out in Paragraph 1, above.
3. Optional items not preselected and indicated on the bid schedule MUST be designated in accordance with Subsection 102.06 prior to or at the time of execution of the contract.
4. Optional and Alternate items designated must be used throughout the project.

I (We) further propose to perform all "force account or extra work" that may be required of me (us) on the basis provided in the Specifications and to give such work my (our) personal attention in order to see that it is economically performed.

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) shall submit electronically with our proposal or deliver prior to the bid opening time 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.

For Informational Purposes Only

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.

Respectfully Submitted,

DATE _____

_____
Contractor

BY _____
Signature

TITLE _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE _____

FAX _____

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.

For Informational Purposes Only

Scrub Seal & Overlay approximately 10 miles of SR 6 from SR 145 in Nettleton to SR 25 in Amory, known as State Project No. MP-1006-48 (006) / 306454301 in Monroe County.

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
					Roadway Items
0010	202-B007		140	Square Yard	Removal of Asphalt Pavement, All Depths
0020	202-B240		8,800	Linear Feet	Removal of Traffic Stripe
0030	203-G001	(E)	110	Cubic Yard	Excess Excavation, FM, AH
0040	209-A005		110	Square Yard	Geotextile Stabilization, Type V, Non-Woven
0050	304-A003	(GY)	5,700	Cubic Yard	Granular Material, LVM, Class 3, Group D
0060	403-A005	(BA1)	70	Ton	19-mm, MT, Asphalt Pavement
0070	403-A014	(BA1)	15,750	Ton	9.5-mm, MT, Asphalt Pavement
0080	406-D001		86,000	Square Yard	Fine Milling of Bituminous Pavement, All Depths
0090	407-A001	(A2)	9,500	Gallon	Asphalt for Tack Coat
0100	423-A001		14	Mile	Rumble Strips, Ground In
0110	618-A001		1	Lump Sum	Maintenance of Traffic
0120	618-B001		1	Square Feet	Additional Construction Signs ($10.00)
0130	619-A1001		40	Mile	Temporary Traffic Stripe, Continuous White
0140	619-A2001		10	Mile	Temporary Traffic Stripe, Continuous Yellow
0150	619-A4002		18	Mile	Temporary Traffic Stripe, Skip Yellow
0160	619-A5001		11,000	Linear Feet	Temporary Traffic Stripe, Detail
0170	619-A6001		150	Square Feet	Temporary Traffic Stripe, Legend
0180	619-A6002		3,000	Linear Feet	Temporary Traffic Stripe, Legend
0190	620-A001		1	Lump Sum	Mobilization
0200	626-C004		20	Mile	6" Thermoplastic Edge Stripe, Continuous White
0210	626-D003		5	Mile	6" Thermoplastic Traffic Stripe, Skip Yellow
0220	626-E004		9	Mile	6" Thermoplastic Traffic Stripe, Continuous Yellow
0230	626-G002		6,300	Linear Feet	Thermoplastic Detail Stripe, White
0240	626-G003		2,750	Linear Feet	Thermoplastic Detail Stripe, Yellow
0250	626-H004		150	Square Feet	Thermoplastic Legend, White
0260	626-H005		6,800	Linear Feet	Thermoplastic Legend, White
0270	627-J001		700	Each	Two-Way Clear Reflective High Performance Raised Markers
0280	627-L001		900	Each	Two-Way Yellow Reflective High Performance Raised Markers
0290	630-F006		120	Each	Delineators, Guard Rail, White
0300	907-414-A001		110,000	Square Yard	Scrub Seal
0310	907-899-A001		1	Lump Sum	Railway-Highway Provisions
					ALTERNATE GROUP AA NUMBER 1
0320	304-H001	(GY)	110	Cubic Yard	3/4" and Down Crushed Stone Base, LVM
					ALTERNATE GROUP AA NUMBER 2
0330	304-H002	(GY)	110	Cubic Yard	Size 610 Crushed Stone Base, LVM

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Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
					ALTERNATE GROUP AA NUMBER 3
0340	304-H003	(GY)	110	Cubic Yard	Size 825B Crushed Stone Base, LVM
					ALTERNATE GROUP BB NUMBER 1
0350	907-624-B002		5,100	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White
0360	907-624-C001		1,000	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow
0370	907-624-D002		3,600	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow
					ALTERNATE GROUP BB NUMBER 2
0380	628-H001		5,100	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous White
0390	628-I002		1,000	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Skip Yellow
0400	628-J001		3,600	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow

For Informational Purposes Only

CONDITIONS FOR COMBINATION BID

If a bidder elects to submit a combined bid for two or more of the contracts listed for this month's letting, the bidder must complete and execute these sheets of the proposal in each of the individual proposals to constitute a combination bid. In addition to this requirement, each individual contract shall be completed, executed and submitted in the usual specified manner.

Failure to execute this Combination Bid Proposal in each of the contracts combined will be just cause for each proposal to be received and evaluated as a separate bid.

It is understood that the Mississippi Transportation Commission not only reserves the right to reject any and all proposals, but also the right to award contracts upon the basis of lowest separate bids or combination bids most advantageous to the State.

It is further understood and agreed that the Combination Bid Proposal is for comparison of bids only and that each contract shall operate in every respect as a separate contract in accordance with its proposal and contract documents.

I (We) agree to complete each contract on or before its specified completion date.

* * * *

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

For Informational Purposes Only

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
9. _____	_____ _____	_____ _____	_____ _____	_____ _____	
10. _____	_____ _____	_____ _____	_____ _____	_____ _____	

(c) If Combination C has been selected, then initial and complete ONE of the following.

_____ I (We) desire to be awarded work not to exceed a total monetary value of $ _____.

_____ I (We) desire to be awarded work not to exceed _____ number of contracts.

For Informational Purposes Only

TO: EXECUTIVE DIRECTOR, MISSISSIPPI DEPARTMENT OF TRANSPORTATION
JACKSON, MISSISSIPPI

CERTIFICATE

If awarded this contract, I (we) contemplate that portions of the contract will be sublet. I (we) certify that those subcontracts which are equal to or in excess of fifty thousand dollars ($50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on September 8, 2011.

I (we) agree that this notification of intent DOES NOT constitute APPROVAL of the subcontracts.

(Individual or Firm)	(Address)
(Individual or Firm)	(Address)
(Individual or Firm)	(Address)
(Individual or Firm)	(Address)

NOTE: Failure to complete the above DOES NOT preclude subsequent subcontracts. Subsequent subcontracts, if any, equal to or in excess of fifty thousand dollars ($50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on September 8, 2011.

Contractor _____

For Informational Purposes Only

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CERTIFICATION

I,_____,
(Name of person signing bid)

individually, and in my capacity as_____ of
(Title of person signing bid)

_____
(Name of Firm, partnership, or Corporation)

do hereby certify under penalty of perjury under the laws of the United States and the State of Mississippi

that_____, Bidder
(Name of Firm, Partnership, or Corporation)

on Project No. **MP-1006-48(006)/ 306454301000**

in **Monroe** County(ies), Mississippi, has not either directly or indirectly entered into any agreement, participated in any collusion; or otherwise taken any action in restraint of free competitive bidding in connection with this contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds are not currently under suspension, debarment, voluntary exclusion or determination of ineligibility; nor have a debarment pending; nor been suspended, debarred, voluntarily excluded or determined ineligible within the past three years by the Mississippi Transportation Commission, the State of Mississippi, any other State or a federal agency; nor been indicted, convicted or had a civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Do exceptions exist and are made a part thereof? Yes / No

Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

All of the foregoing is true and correct.

(1/2016 S)

For Informational Purposes Only

SECTION 902

CONTRACT FOR **MP-1006-48(006)/ 306454301000**

LOCATED IN THE COUNTY(IES) OF **Monroe**

STATE OF MISSISSIPPI,
COUNTY OF HINDS

This contract entered into by and between the Mississippi Transportation Commission on one hand, and the undersigned contractor, on the other witnesseth;

That, in consideration of the payment by the Mississippi Transportation Commission of the prices set out in the proposal hereto attached, to the undersigned contractor, such payment to be made in the manner and at the time of times specified in the specifications and the special provisions, if any, the undersigned contractor hereby agrees to accept the prices stated in the proposal in full compensation for the furnishing of all materials and equipment and the executing of all the work contemplated in this contract.

It is understood and agreed that the advertising according to law, the Advertisement, the instructions to bidders, the proposal for the contract, the specifications, the revisions of the specifications, the special provisions, and also the plans for the work herein contemplated, said plans showing more particularly the details of the work to be done, shall be held to be, and are hereby made a part of this contract by specific reference thereto and with like effect as if each and all of said instruments had been set out fully herein in words and figures.

It is further agreed that for the same consideration the undersigned contractor shall be responsible for all loss or damage arising out of the nature of the work aforesaid; or from the action of the elements and unforeseen obstructions or difficulties which may be encountered in the prosecution of the same and for all risks of every description connected with the work, exceptions being those specifically set out in the contract; and for faithfully completing the whole work in good and workmanlike manner according to the approved Plans, Specifications, Special Provisions, Notice(s) to Bidders and requirements of the Mississippi Department of Transportation.

It is further agreed that the work shall be done under the direct supervision and to the complete satisfaction of the Executive Director of the Mississippi Department of Transportation, or his authorized representatives, and when Federal Funds are involved subject to inspection at all times and approval by the Federal Highway Administration, or its agents as the case may be, or the agents of any other Agency whose funds are involved in accordance with those Acts of the Legislature of the State of Mississippi approved by the Governor and such rules and regulations issued pursuant thereto by the Mississippi Transportation Commission and the authorized Federal Agencies.

The Contractor agrees that all labor as outlined in the Special Provisions may be secured from list furnished by

It is agreed and understood that each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and this contract shall be read and enforced as though it were included herein, and, if through mere mistake or otherwise any such provision is not inserted, then upon the application of either party hereto, the contract shall forthwith be physically amended to make such insertion.

The Contractor agrees that he has read each and every clause of this Contract, and fully understands the meaning of same and that he will comply with all the terms, covenants and agreements therein set forth.

Witness our signatures this the____ day of _____,_____.

_____
Contractor(s)

By_____

Title_____

Signed and sealed in the presence of:
(names and addresses of witnesses)

_____

MISSISSIPPI TRANSPORTATION COMMISSION

By_____
Executive Director

_____
Secretary to the Commission

Award authorized by the Mississippi Transportation Commission in session on the ____ day of _____,_____, Minute Book No. _____, Page No. _____.

Revised 8/06/2003

For Information Purposes Only

S E C T I O N 9 0 3
PERFORMANCE AND PAYMENT BOND

CONTRACT BOND FOR: **MP-1006-48(006)/ 306454301000**

LOCATED IN THE COUNTY(IES) OF: **Monroe**

STATE OF MISSISSIPPI,
COUNTY OF HINDS

Know all men by these presents: that we, _____
(Contractor)
_____ Principal, a _____

residing at_____ in the State of _____

and _____
(Surety)
residing at _____ in the State of _____,

authorized to do business in the State of Mississippi, under the laws thereof, as surety, effective as of the contract date shown below, are held and firmly bound unto the State of Mississippi in the sum of _____

_____

($_____) Dollars, lawful money of the United States of America, to be paid to it for which payment well and truly to be made, we bind ourselves, our heirs, administrators, successors, or assigns jointly and severally by these presents.

The conditions of this bond are such, that whereas the said _____

_____

principal, has (have) entered into a contract with the Mississippi Transportation Commission, bearing the date of _____ day of _____ A.D. _____ hereto annexed, for the construction of certain projects(s) in the State of Mississippi as mentioned in said contract in accordance with the Contract Documents therefor, on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

Now therefore, if the above bounden _____ _____in all things shall stand to and abide by and well and truly observe, do keep and perform all and singular the terms, covenants, conditions, guarantees and agreements in said contract, contained on his (their) part to be observed, done, kept and performed and each of them, at the time and in the manner and form and furnish all of the material and equipment specified in said contract in strict accordance with the terms of said contract which said plans, specifications and special provisions are included in and form a part of said contract and shall maintain the said work contemplated until its final completion and acceptance as specified in Subsection 109.11 of the approved specifications, and save harmless said Mississippi Transportation Commission from any loss or damage arising out of or occasioned by the negligence, wrongful or criminal act, overcharge, fraud, or any other loss or damage whatsoever, on the part of said principal (s), his (their) agents, servants, or employees in the performance of said work or in any manner connected therewith, and shall be liable and responsible in a civil action instituted by the State at the instance of the Mississippi Transportation Commission or any officer of the State authorized in such cases, for double any amount in money or property, the State may lose or be overcharged or otherwise defrauded of, by reason of wrongful or criminal act, if any, of the Contractor(s), his (their) agents or employees, and shall promptly pay the said agents, servants and employees and all persons furnishing labor, material, equipment or supplies therefor, including premiums incurred, for Surety Bonds, Liability Insurance, and Workmen's Compensation Insurance; with the additional obligation that such Contractor shall promptly make payment of all taxes, licenses, assessments, contributions, damages,

For Informational Purposes Only

any liquidated damages which may arise prior to any termination of said principal's contract, any liquidated damages which may arise after termination of the said principal's contract due to default on the part of said principal, penalties and interest thereon, when and as the same may be due this state, or any county, municipality, board, department, commission or political subdivision: in the course of the performance of said work and in accordance with Sections 31-5-51 et seq. Mississippi Code of 1972, and other State statutes applicable thereto, and shall carry out to the letter and to the satisfaction of the Executive Director of the Mississippi Department of Transportation, all, each and every one of the stipulations, obligations, conditions, covenants and agreements and terms of said contract in accordance with the terms thereof and all of the expense and cost and attorney's fee that may be incurred in the enforcement of the performance of said contract, or in the enforcement of the conditions and obligations of this bond, then this obligation shall be null and void, otherwise to be and remain in full force and virtue.

_____	_____
(Contractors) Principal	Surety
By _____	By _____
	(Signature) Attorney in Fact
	Address _____
	_____
Title _____	_____
(Contractor's Seal)	(Printed) MS Agent
	_____
	(Signature) MS Agent
	Address _____
	_____
	_____
	(Surety Seal)
	_____
	Mississippi Insurance ID Number

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Revised 9/02/2014

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we_____
Contractor

_____
Address

_____
City, State ZIP

As principal, hereinafter called the Principal, and _____
Surety

a corporation duly organized under the laws of the state of _____

as Surety, hereinafter called the Surety, are held and firmly bound unto **State of Mississippi, Jackson, Mississippi**

As Obligee, hereinafter called Obligee, in the sum of **Five Per Cent (5%) of Amount Bid**

Dollars($_____)

for the payment of which sum will and truly to be made, the said Principal and 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 **Scrub Seal & Overlay approximately 10 miles of SR 6 from SR 145 in Nettleton to SR 25 in Amory, known as State Project No. MP-1006-48(006) / 306454301 in Monroe County.**

NOW THEREFORE, the condition of this obligation is such that if the aforesaid Principal shall be awarded the contract, the said Principal will, within the time required, enter into a formal contract and give a good and sufficient bond to secure the performance of the terms and conditions of the contract, then this obligation to be void; otherwise the Principal and Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder exceed the penal sum hereof.

Signed and sealed this _____day of _____, 20___

_____
(Principal) (Seal)

_____ By:_____
(Witness) (Name) (Title)

_____
(Surety) (Seal)

_____ By:_____
(Witness) (Attorney-in-Fact)

_____
(MS Agent)

_____
Mississippi Insurance ID Number

FORM CSD-612
Rev. 1 / 2015

YEAR 2018 PROGRESS SCHEDULE

YEAR _____

PROJECT NUMBER MP-1006-48(006) / 306454301
COUNTY Monroe

WORK PHASE NO.	WORK PHASE DESCRIPTION	LINE NUMBERS	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOV	DEC	
1	Miscellaneous	10-40, 110-190, 290, 310-340							0			64															
2	Pavement	50-90, 300							5			55															
3	Pavement Markings	100, 200-280, 350-400									55	64															
	LET:	May 22, 2018																									
	NOA:	June 12, 2018																									
	NTP/BCT:	July 12, 2018																									
	W.D.:	64																									

MONTH	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOV	DEC	
ANTICIPATED WORKING DAYS PER MONTH	6	7	11	15	19	20	21	21	20	16	11	5	6	7	11	15	19	20	21	21	20	16	11	5	172 WORKING DAYS PER YEAR

NOTE: THE ANTICIPATED WORKING DAYS SHOWN ON THIS SCHEDULE ARE FOR INFORMATIONAL PURPOSES ONLY.
THE ACTUAL WORKING DAY TOTAL AS ASSESSED BY THE PROJECT ENGINEER ON FORM CSD-765 SHALL GOVERN.