

SECTION 905 -- PROPOSAL (CONTINUED)

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

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

ADDENDUM NO.	<u>1</u>	DATED	<u>7/15/2025</u>	ADDENDUM NO.	_____	DATED	_____
ADDENDUM NO.	_____	DATED	_____	ADDENDUM NO.	_____	DATED	_____
ADDENDUM NO.	_____	DATED	_____	ADDENDUM NO.	_____	DATED	_____

Number

Description

- 1 Revised Table of Contents; Revised NTB No. 7007; SP 907-626-12 replaces SP 907-626-11; SP 907-720-4 replaces SP 907-720-3; Revised Bid Items; Amendment EBSx Download Required.

TOTAL ADDENDA: 1

(Must agree with total addenda issued prior to opening of bids)

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.

SP-0008-04(072)/ 108938301000 & SP-0008-04(075)/ 108938302000

Holmes County(ies)

Revised 01/26/2016

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
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SP-0008-04(075)/108938302 - Holmes

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OF SECTION 905 AS ADDENDA)

07/15/2025 03:40 PM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 7007

CODE: (SP)

DATE: 07/15/2025

SUBJECT: Scope of Work

PROJECT: SP-0008-04(072) / 108938301 & SP-0008-04(075) / 108938302 -- Holmes County

The contract documents do not include an official set of construction plans, but may, by reference, include some Standard Drawings when so specified in a Notice to Bidders entitled, “Standard Drawings.”

**US HIGHWAY 49E
OVERLAY FROM NORTH OF THE SR 12 INTERSECTION TO TCHULA IN
HOLMES COUNTY
LOG MILE 8.329 TO 15.061
&
MISSISSIPPI HIGHWAY 835
OVERLAY FROM US 49E TO THE E.O.S.M.
LOG MILE 0.009 TO 0.385**

In general, the work to be accomplished using the pay items and corresponding specifications set forth in this contract is to overlay approximately 6.8 miles of US 49E in Holmes County from approximately 800 feet north of the SR 12 intersection to Tchula at the intersection of US 49E and SR 12. This overlay will also include SR 835 in Tchula from the intersection of US 49E to the End of State Maintenance (approximately 2000 feet).

Work on the project shall consist of the following:

1. The Contractor shall erect and maintain construction signing, provide all signs, and traffic handling devices in accordance with the Traffic Control Plan. The costs for this work shall be included in the price bid for pay item 907-618-A: Maintenance of Traffic. All traffic control devices on this project should comply with the latest version of the MUTCD. Fluorescent orange sheeting shall be used on all construction and traffic control signs except for those designated in the plans to be black legend and border on white background. The Contractor will be required to use 42-inch channelizer cones with 6-inch-wide reflective tape and 16-pound vertical panel bases for each cone.
2. The Contractor shall remove the designated failed pavement areas from the main facility as directed by the Engineer. (See the included Pavement Repair sheet.)
 - A) Saw cut through the failed pavement.
 - B) Remove the failed pavement.

- C) Remove any unsuitable material in the subgrade as directed by the Engineer. Removal of this material will be paid for as excess excavation.
 - D) Back fill and stabilize the excavated subgrade and failed pavement with 19-mm, ST Leveling asphalt. No lift of 19-mm asphalt pavement shall be greater than 3½" or as designated by the Engineer. Densities will not be required on this asphalt. The Contractor shall compact each lift to refusal or as directed by the Engineer.
3. The Contractor shall perform pre-grinding prior to paving. The costs for this work shall be included in the price for pay item number 412-A: Pre-Grinding.

Note: See the included pre-grinding sheet for locations.

4. The Contractor shall underseal the roadway and shoulders adjacent to each end of Bridges 221.1 & 228.3 (US 49E) and Bridge 228.0 (R 835). The undersealing shall extend from the bridge end out 25 feet along the center line. The underseal method for this project will be the Deep Injection Process. This work is to be paid under the 907-420-A: Undersealing pay item.
5. The Contractor shall fine mill US 49E & SR 835 at the B.O.P., E.O.P, bridge ends, local roads, railroad crossings, aprons, guard rail pads and other areas as designated by the Project Engineer to ensure the smooth transition of the new overlay with existing grade. It is the Contractor's responsibility to ensure the drainage of surface water from the milled areas including the use of shoulder cuts.

Note: Temporary wedges of full lane width asphalt pavement shall be placed by the Contractor immediately after the milling process to allow the safe transition of traffic. The length of the wedges will be three feet (3') for every ½ inch in height. These wedges shall be maintained in a satisfactory condition by the Contractor until the permanent asphalt pavement is placed. All costs for placing and maintaining these wedges shall be absorbed in other pay items. Cold mix will not be allowed.

6. The Contractor shall place 1½" of 9.5-mm, ST asphalt on the main roadway having a two percent (2%) cross slope or the appropriate super elevation rate in each direction from the centerline. Any work to control the laydown equipment for proper placement of the asphalt in the superelevated curves shall be absorbed by the Contractor at no additional cost to the State. The asphalt shall be placed in full lane width passes on the main roadway and in widths as necessary at intersections and other areas where the pavement width varies.

Local roads shall be paved to the right-of-way or as directed by the Project Engineer. Aprons shall be constructed at existing ramps that do not have paved aprons by placing 3" of asphalt pavement in widths and lengths as directed by the Project Engineer. Existing paved aprons shall be paved to match final main line grades. Any site grading at local roads or drives will not be measured for separate payment but will be considered an absorbed item. All local roads, guard rail pads, and aprons will be paid under the 9.5-mm, ST Asphalt Pavement pay item.

Note: Guard rail pads shall be paved on Bridges 222.1 & 228.3 (US 49E).

Note: This project does have a Railroad crossing at Tchula. There is also a section of US 49E which closely parallels the Railroad (Log mile 9.2 at Milestone to 12.4). On this section, there are five (5) local road connections to the main highway. Any cost incurred from the traffic control when working near the Railroad at the crossing or these local roads will be paid for under pay item 907-899-A: Railway-Highway Provisions.

7. Temporary striping shall conform to finished stripe specifications for alignment, reflectivity, straightness, and neatness. Temporary stripe shall be placed as needed for safe movement of traffic. All permanent pavement markings shall be hot thermoplastic. Edge lines will be placed to maintain a 12-foot lane width. The Contractor will mill a 12-inch rumble strip along the edge of pavement and spray 6-inch thermoplastic on the rumble strip to create a "Rumble Stripe" (See Rumble Stripe Detail.) No Rumble strips will be placed on SR 835.

Note: The removal of stripe pay item is for the stripe removal on concrete bridge surfaces.

8. The Contractor shall raise the grade of the shoulders to match the new asphalt pavement grade. The finished slope shall be a minimum of 4%. Vegetative material shall be removed prior to placement of material along the shoulders. Shoulders shall be bladed, shaped, and compacted throughout the length of the project regardless of whether new granular material is required.

If a surplus of material occurs during the blading of the existing shoulder material, it shall be spread along the edge of the shoulders, fore slopes, or other adjacent areas as directed by the Project Engineer and will be an absorbed item. Material which cannot be placed in the adjacent areas and is deemed to be excess excavation by the Project Engineer shall be removed from the project site. Payment for the removal of excess material will be made using pay item 203-G: Excess Excavation.

Note: Any existing low shoulders or at any time there is a differential more than 2", the Contractor shall raise the shoulder grade up to the current asphalt grade. The Contractor may pull up existing shoulder material if possible or place new granular material. Incidental work such as removing vegetation, shaping, and compacting shoulders including the base for paved aprons, and other incidental work that is necessary to complete the work will not be measured for separate payment and the cost will be included in the items bid.

9. The Contractor shall install guard rail on the bridges 222.1 & 228.3 (US 49E) using the guard rail pay items in the proposal. (See the included Guardrail sheet.) Also, Type 3 post mounted Object Markers shall be installed at these two bridge sites.
10. Raised two-way yellow markers shall be placed at 80-foot intervals in tangents and 40-foot intervals in curves & urban areas along the centerline of roadway. Two-way clear markers shall be placed on local roads. Existing raised pavement markers shall be removed prior to the placement of asphalt and shall be considered an absorbed item of work.

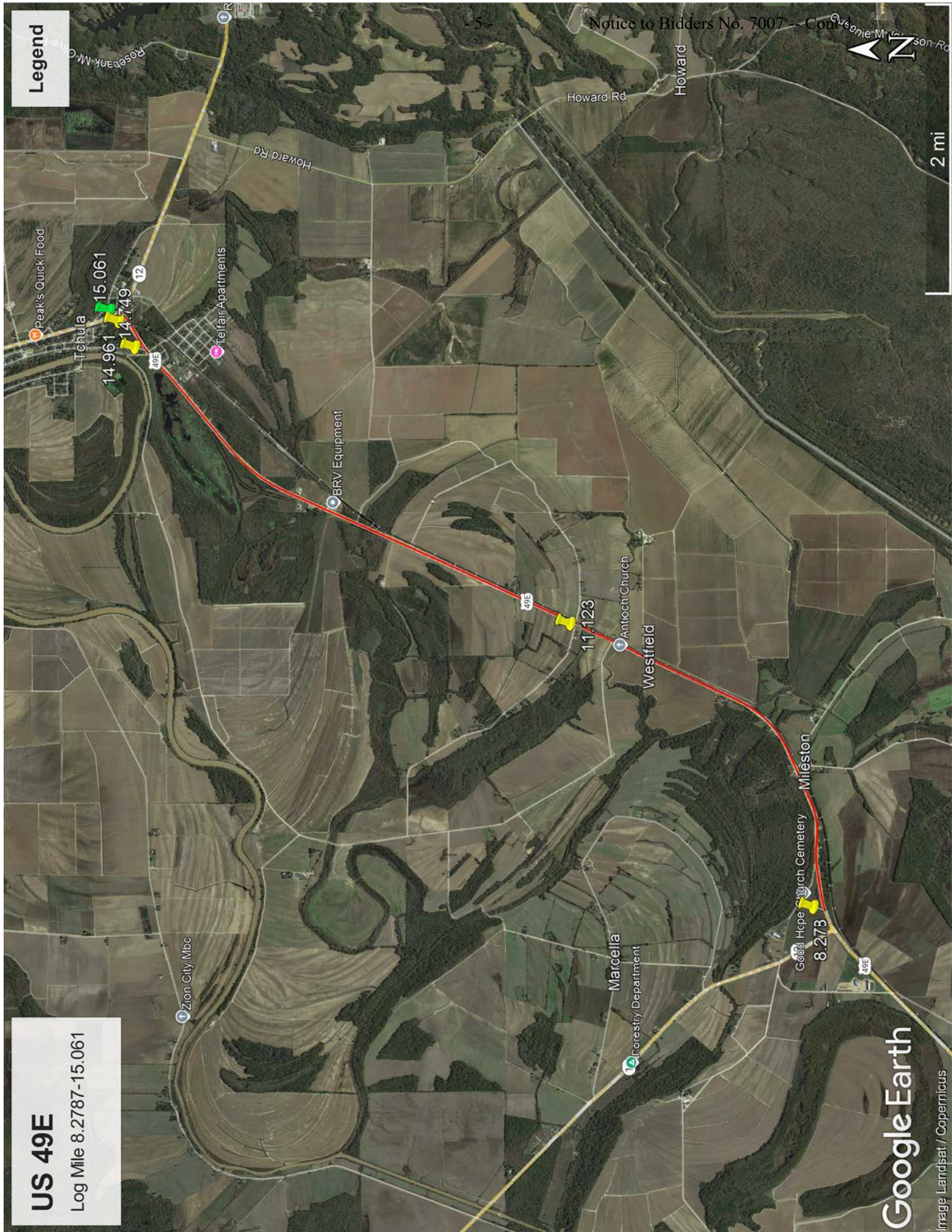
Edge line two-way clear markers will be placed on this project. The markers will be paid under the two-way clear marker pay item. (See included RPM-1 sheet.)

Note: As part of the final clean-up the contractor shall sweep clean and remove all debris on all bridges within the project limits.

US 49E

Log Mile 8.2787-15.061

Legend



SR 835

Log Mile 0.009-0.385

Legend

- 6 -

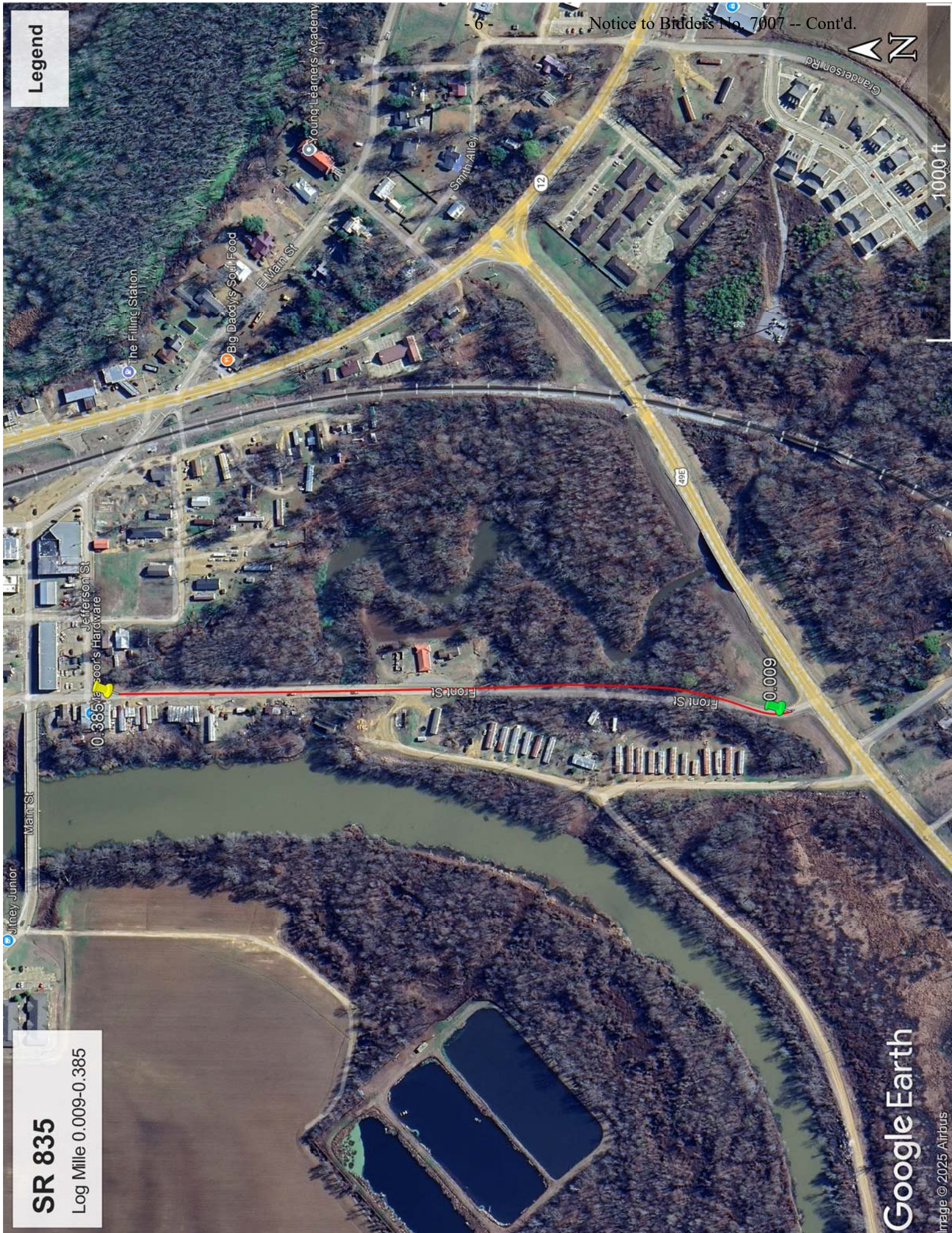
Notice to Bidders No. 7007 -- Cont'd.



1000 ft

Google Earth

Image © 2025 Airbus



PAVEMENT REPAIR											
No.	Log Mile	Lane	Lat.	Long.	Length (LF)	Width (LF)	Depth (LF)	Area (SY)	Sawcut		19-mm Asphalt (T)
									Full Depth (LF)	Excess Excav. (CY)	
1	9.938	SB	33.11726	-90.26605	40	9	1	40	58	7	27
2	10.027	Both	33.11843	-90.26539	35	8	1	31	51	5	21
3	12.536	NB	33.15138	-90.24710	6	28	1	19	62	3	13
								90	171	15	61

Pre-Grinding Locations (US 49E)

Lane 1 (NB)	Start Distance (ft)	Stop Distance (ft)	MRI (in/mi)	Start LM	End LM	Grind Length (ft)	Area (sq. ft.)
From BOP	33228.58	33246.08	751.6113	6.293	6.297	18	216

Lane 2 (SB)	Start Distance (ft)	Stop Distance (ft)	MRI (in/mi)	Start LM	End LM	Grind Length (ft)	Area (sq. ft.)
From BOP	583.4166	592.3333	638.7906	0.110	0.112	9	108
	2842.667	2850.917	528.246	0.538	0.540	8	96

Subtotal (sq. ft.) 420

Pre-Grinding Locations (SR 835)

Lane 1 (NB)	Start Distance (ft)	Stop Distance (ft)	MRI (in/mi)	Start LM	End LM	Grind Length (ft)	Area (sq. ft.)
From BOP	437.3333	453.4167	586.0138	0.083	0.086	16	192

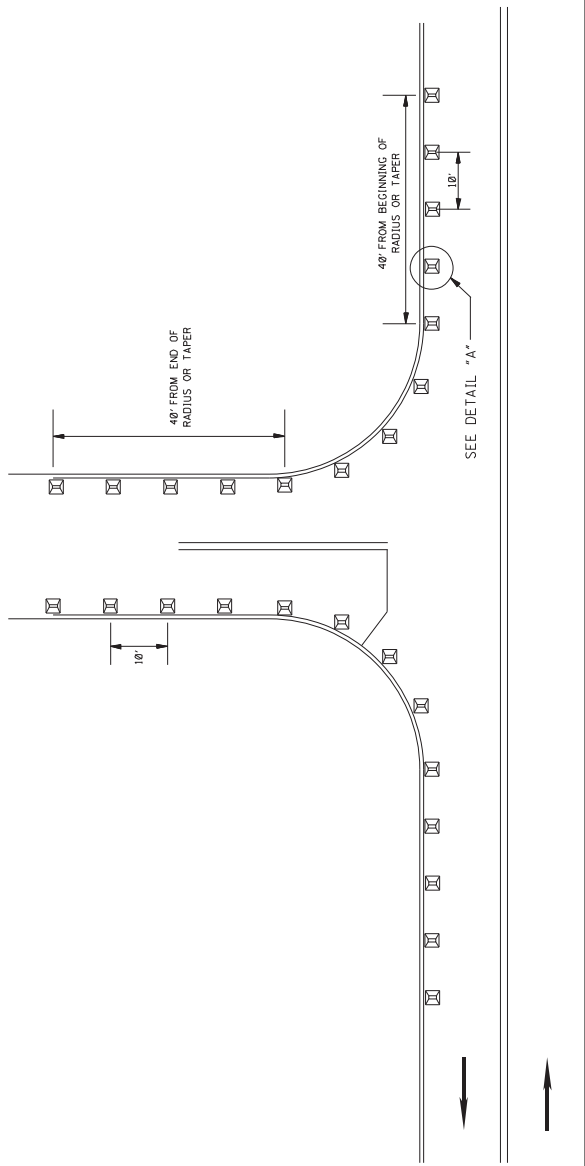
Lane 2 (SB)	Start Distance (ft)	Stop Distance (ft)	MRI (in/mi)	Start LM	End LM	Grind Length (ft)	Area (sq. ft.)
From BOP	1417.75	1442.917	731.0886	0.269	0.273	25	300
	1516.25	1563.75	841.2356	0.287	0.296	25	300

Subtotal (sq. ft.) 792

Total (sq. ft.) 1212

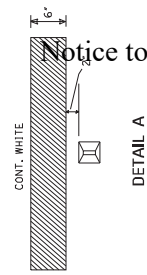
Log		GUARD RAIL										Type 3 Obj. Marks.																																								
		Location		Mile		Quadrant		Lane		Removal				w-beam		Terminals		Br. End Sect.		Delinator																																
																Flared		Type "H"		Type "I"		White																														
														EA		EA		EA																																		
Br. 222.1	9.778	SE	NB	146	87.5	1	EA	1	EA	1	EA	5	1	EA	5	1	EA	1	EA																																	
																				SW	SB	84	25.0	1	EA	1	EA	1	EA	3	1	EA	1																			
																																		NW	SB	146	87.5	1	EA	1	EA	5	1	EA	1							
																																														NE	NB	84	25.0	1	EA	1
Br. 228.3	14.846	SE	NB	216	150.0	1	EA	1	EA	1	EA	6	1	EA	6	1	EA	1	EA																																	
																				SW	SB	116	50.0	1	EA	1	EA	3	1	EA	1	EA	3	1	EA	1																
																																					NW	SB	216	150.0	1	EA	1	EA	6	1	EA	1	EA	1	EA	1
				1124		625		8		4		4		34		8		8																																		

TYPICAL PLACEMENT OF RAISED PAVEMENT
MARKERS ON SIDE ROAD RADIUS
2-LANE, TWO WAY TRAFFIC



GENERAL NOTES:

1. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
2. MARKERS SHALL BE HIGH PERFORMANCE TWO-WAY CLEAR.
3. MARKERS SHALL NOT BE ROTATED WHEN BEING PLACED ALONG RADIIUS AND TANGENT SECTION OF LOCAL ROAD.
4. MARKERS SHALL BE INSTALLED AT SIMPLE AND CHANNELIZED INTERSECTIONS TO THE LIMITS SHOWN ABOVE.



DIRECTION OF TRAFFIC

Notice to Bidders No. 7007 -

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

2-WAY RAISED PAVEMENT MARKERS AT INTERSECTING ROADS (2-LANE)

WEEKLY NUMBER
888-438-2626 • 800-494-1414

WORKING NUMBER PM-11	SHEET NUMBER 6061
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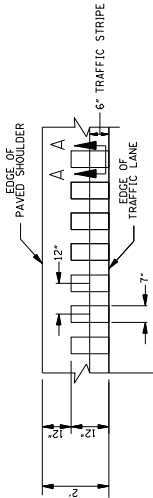
AUGUST 01, 2017

DATE	REVISION	BY

STATE	PROJECT NO.
MISS.	

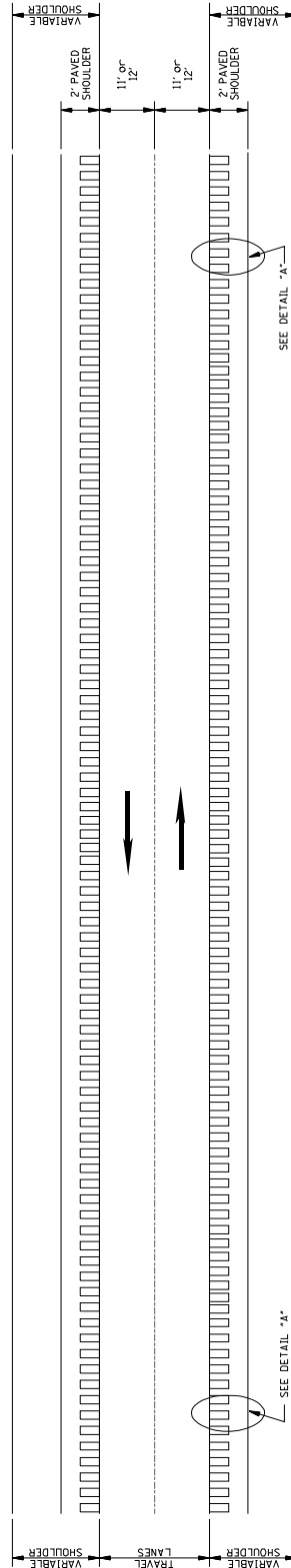
GENERAL NOTES

- GROUND-IN RUMBLE STRIPES SHALL BE APPLIED ON LEFT SHOULDER OF ALL PAVED SHOULDERS ON THIS PROJECT
- GROUND-IN RUMBLE STRIPES SHALL BE APPLIED ON EXISTING PAVED SHOULDERS OF ROADWAYS OR OTHER INTERSECTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
- COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
- GROUND-IN RUMBLE STRIPES SHALL BE APPLIED TO:
 - MAINLINE
 - INTERSECTING ROADWAY IF OVERLAND OR RECONSTRUCTED BEYOND NORMAL MAINLINE R.O.W.
 - ANY ROADWAY WITH EXISTING RUMBLE STRIPES PRIOR TO CONSTRUCTION.
- DO NOT USE WHERE TRAVEL LANE IS LESS THAN 11' WIDE.



DETAIL "A"

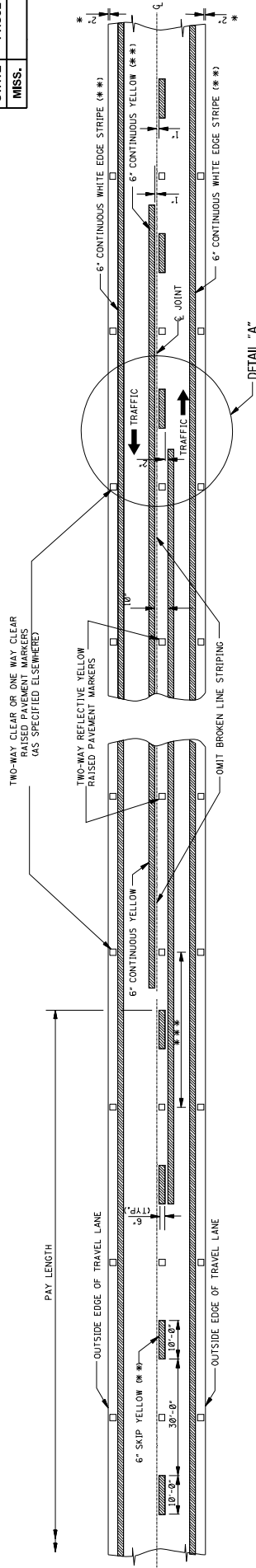
SECTION "A-A"



PLAN
NOT TO SCALE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION		ROADWAY DESIGN DIVISION		STANDARD PLAN	
BY	REVISION	DATE	ISSUE DATE:	PROJECT NUMBER	6064
05H	LOCATION	01/2017	AUGUST 01, 2017	RS-1	
RUMBLE STRIPES		2-LANE HIGHWAYS		2-FT ASPHALT SHOULDERS	

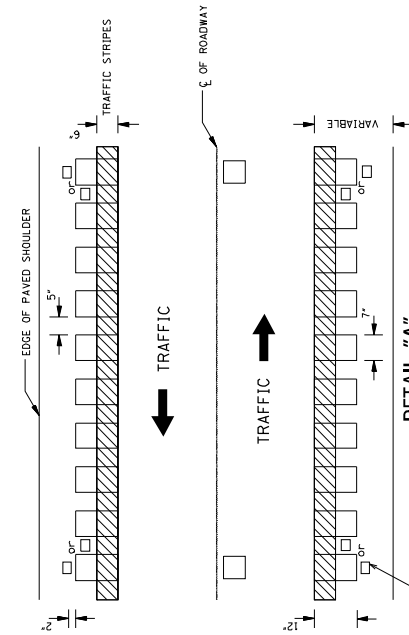
TWO-WAY CLEAR OR ONE-WAY CLEAR
RAISED PAVEMENT MARKERS
(AS SPECIFIED ELSEWHERE)



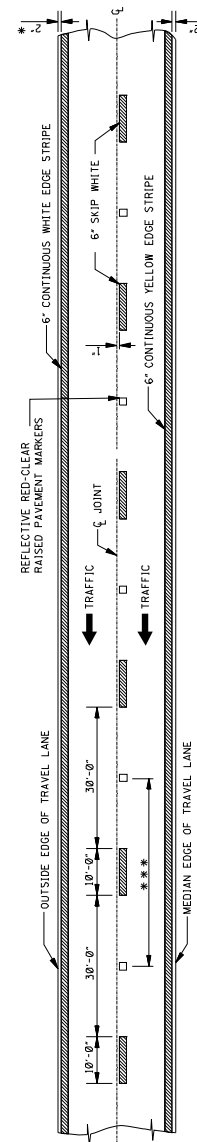
TWO-WAY TRAFFIC
(ASPHALT OR CONCRETE PAVEMENT)

TWO-WAY TRAFFIC
TWO-WAY CLEAR OR ONE-WAY CLEAR
RAISED PAVEMENT MARKERS
(AS SPECIFIED ELSEWHERE)

TWO-WAY TRAFFIC
TWO-WAY CLEAR OR ONE-WAY CLEAR
RAISED PAVEMENT MARKERS
(AS SPECIFIED ELSEWHERE)



DETAIL "A"
PLACEMENT OF RPMs ON
PAVEMENTS WITH RUMBLE STRIPS



4-LANE WITH ONE-WAY TRAFFIC

GENERAL NOTES:

1. 2" UNLESS SHOWN ELSEWHERE ON THE PLANS, FOR ALL DIMENSIONS AND SECTIONS REFER TO M.S. SHEETS RS-1, RS-2, AND RS-3.
2. EDGE STRIPE SHALL BE SAME MATERIAL AS LANE-LINE STRIPE (PAINT OR PLASTIC AS INDICATED IN PAY ITEMS).
3. SPACING OF REFLECTIVE RAISED PAVEMENT MARKERS IS AS FOLLOWS:

TANGENT SECTIONS	URBAN AREA (ft-ft)	RURAL AREA (ft-ft)
HORIZONTAL CURVES	40'-0"	80'-0"
INTERCHANGE LIMITS	40'-0"	40'-0"

1. NOTE: ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINES THROUGH ALL INTERCHANGE AREAS BEGINNING WITH THE FIRST LANE OF TRAVEL ON THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.

4. EDGE LINE RAISED PAVEMENT MARKERS ARE TO BE PLACED AT THE SAME SPACING AS THE CENTERLINE MARKERS. EDGE LINE MARKERS SHALL BE PLACED AT THE BEGINNING OF THE INTERSECTION, INTERSECTIONS, CROSSOVERS, ETC. EDGE LINE RPMs WILL NOT BE PLACED IN URBAN AREAS UNLESS OTHERWISE SPECIFIED.

5. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MOOT "APPROVED SOURCES OF MATERIALS."

6. THE CRITERIA FOR NO-PASSING ZONES CAN BE FOUND IN THE MOOTROADWAY DESIGN MANUAL, SECTION 11-1.01.

7. WHERE RUMBLE STRIPS ARE PRESENT, THE EDGE LINE MARKERS SHALL BE PLACED OUTSIDE THE RUMBLE STRIPS OR BETWEEN THE RUMBLE STRIPS AS DIRECTED BY THE ENGINEER.

Notice to Bidders No. 1007

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
RAISED PAVEMENT MARKING
2-LANE ROADWAYS
PROJ. NO.:
COUNTY:
SHEET NUMBER
FILE NAME: RPM-1.dgn
DESIGN TEAM
DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-626-12

CODE: (IS)

DATE: 06/17/2025

SUBJECT: Thermoplastic Traffic Markings

Section 626, Thermoplastic Traffic Markings, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete Section 626 on pages 492 thru 496, and substitute the following.

SECTION 626 - THERMOPLASTIC TRAFFIC MARKINGS

907-626.01--Description. This work consists of furnishing materials and placing thermoplastic pavement markings of the type specified in conformity with these specifications and the details shown on the plans or established. All hot-applied thermoplastic pavement markings shall be coated with a double-drop combination of optics.

This work may also consist of placing an audible bump or puck style marking system on the edge line that provides an audible and vibratory warning when driven over. The marking system shall be a road marking system of the dimensions indicated at regular and predetermined intervals.

This work may also consist of placing a profile or raised shape marking system on centerline or edge line that provides audible and vibratory warning when driven over. The marking system shall be a road marking system of the dimensions indicated and at regular and predetermined intervals. When placed on centerline, the markings system shall consist of an extruded black transverse thermoplastic bar of the dimensions indicated at regular and predetermined intervals.

This work may also consist of placing high contrast thermoplastic markings. High contrast thermoplastic markings shall consist of placing thermoplastic pavement markings over a black thermoplastic pavement marking to enhance the marking's visibility.

All pavement marking material, excluding lines over rumble strips, shall be applied using the extrusion/ribbon method. Lines placed over rumble strips shall be applied using the atomization/spray method, [unless the extrusion/ribbon method can be demonstrated to perform adequately and is approved by the Engineer.](#)

Permanent pavement marking tape (permanent cold plastic tape) may be used in lieu of hot applied thermoplastic markings. Substitution will only be allowed for pay items 907-626-A through H. Substituted pavement marking tape shall be of the same color and width as that required for the hot applied thermoplastic. Unless otherwise specified, the markings, whether hot applied or pavement marking tape, shall be of the same type of material for the entire project. Stop bars and crosswalks shall not be substituted with pavement marking tape and shall be alkylid hot-applied thermoplastic markings or heat-fused preformed pavement markings. Material and construction

requirements for substituted pavement marking tape shall meet the requirements of Special Provision 907-628. The layout and spacing for substituted pavement markings will remain as shown in the plans, or in the contract documents, for hot applied thermoplastic markings. Measurement of adhesive substituted pavement markings shall be made in accordance with Special Provision 907-628. Payment for adhesive substituted pavement markings shall be made at the unit price for the appropriate hot applied thermoplastic marking.

When thermoplastic pavement markings are used on bridge decks or concrete surfaces, the surface shall be sealed with an epoxy sealer prior to the application of thermoplastic.

907-626.02--Materials. All pavement marking materials shall meet the requirements of Special Provision 907-720.

907-626.02.1--Audible Bumps. Audible bumps shall have a profile such that the leading and trailing edges are sloped at a sufficient angle to create an audible and vibratory warning.

Audible bumps shall be at least 0.45 inches above the pavement surface at the highest point of the bump. The height shall be measured after the application of drop-on material. The bumps shall have a minimum dimension of two and one-half inches (2½") in both transverse and longitudinal directions. The bumps may have a drainage channel. The width of each drainage channel shall not exceed one-quarter of an inch (¼") at the bottom of the channel.

907-626.02.2--Audible Transverse Bars. The length of transverse bars is the measurement lateral to the direction of travel, also known as transverse width. The width of transverse bars is the measurement parallel to the travel way.

Transverse bars on centerline shall have a length of 10 inches, a width of three inches (3"), and a height of 350 mils. Transverse bars on centerline shall be placed on 2-foot centers through no-passing zones and 5-foot centers through passing zones. Transverse bars on centerline shall be placed in advance of permanent thermoplastic markings.

Transverse bars on edge lines shall have a length of six inches (6"), a width of three inches (3"), and a height of 350 mils. Transverse bars on edge lines shall be placed on 2-foot centers. Tolerance for the longitudinal and transverse measurements shall be one quarter of an inch (¼") and the tolerance for height shall be 50 mils. The above dimensions are based on 6-inch strip application.

Thermoplastic material for edge line transverse bars shall be as specified on the Plans and meet the requirements of Special Provision 907-720 or as specified on the plans. Thermoplastic material for centerline transverse bars shall be black and shall meet the requirements of Special Provision 907-720.

907-626.02.3--High Contrast Markings. High contrast markings shall be black with the pertinent marking color overlaid on top and shall meet the requirements of Special Provision 907-720.

907-626.03--Construction Requirements.

907-626.03.1--Equipment. Equipment for hot application shall be of sufficient size and stability to ensure smooth, uniform, properly aligned markings of the dimensions specified. The equipment shall be suitably equipped for heating and controlling the flow of the material. The equipment shall be constructed to provide continuous mixing and agitation of the material. The conveying parts of the equipment, between the main material reservoir and applicator, shall be so constructed as to prevent accumulation and clogging. The equipment shall be constructed so that all mixing and conveying parts, up to and including the applicator, maintain the material at the plastic temperature. The thermoplastic material shall be dispensed at a temperature recommended by the manufacturer. The applicator shall include a cutoff device remotely controlled to provide clean, square stripe ends and to provide a method for applying skip lines. The thermoplastic reservoir shall be insulated and equipped with an automatic thermostatic control to maintain the proper temperature of the material.

The application equipment shall be capable of automatic placement of intermittent and continuous line patterns in single or double line applications simultaneously. The intermittent timer mechanism shall provide a variable ratio of materials applied and variable cycle length such that accurate placement of new patterns, or replacement of existing patterns can be achieved.

The equipment shall also be capable of applying the top dressing of optics (beads) in a manner that firmly embeds them into the surface of the thermoplastic material for at least one half of the diameter of the larger gradation sizes of the optics. The dispensing equipment shall be equipped with an automatic cut-off control for the application of the optics that is synchronized with the cut-off of the thermoplastic material.

Optics applied to the surface of the completed stripe shall be applied by an automatic dispenser attached to the pavement marking equipment in such a manner that the optics are immediately dispensed upon the completed line. The dispenser shall be equipped with an automatic cutoff control, synchronized with the cutoff of the pavement marking equipment. The double-drop optics as defined in 907-720 shall be automatically applied at a uniform rate to achieve the minimum retroreflectivity requirements of 907-626.

907-626.03.2--Construction Details. The thermoplastic compound shall be screed or ribbon extruded to the pavement surface. Heat-fused, pre-formed pavement markings shall be fusible to asphalt surfaces by means of the normal heat of a propane weed-burner type of torch or other heating device as recommended by the manufacturer. Heat-fused, pre-formed pavement markings shall be instantly highly reflective without the application of additional optics.

Thermoplastic markings shall not be applied to the pavement surface when the pavement surface temperature is less than 55°F. The pavement surface shall be dry, to the satisfaction of the Engineer, before application will be permitted. Unless otherwise specified by the manufacturer, thermoplastic pavement marking material shall be applied to the surface between 400°F and 450°F with a recommended application temperature being 420°F.

Immediately before application, all areas to be marked shall be thoroughly cleaned. Cleaning may be done by rotary brooms, air blast, scrapers, or whatever combination of equipment is necessary to clean the pavement thoroughly without damage to the pavement surface. On areas of pavement

cured with compound, the membrane shall be removed completely by shot blasting, sand blasting or other approved method. Before edge striping, particular care shall be taken to remove all vegetation, loose soil, and the like from the area to be marked. Should other methods fail, the surface shall be wetted with a water jet and scrubbed as necessary to dislodge all foreign material. After washing, the surface shall be allowed to dry thoroughly, and all films of dried mud apparent after surface drying shall be removed before application of markings. Marking shall follow as closely as practicable after the surface has been cleaned and dried, but no markings shall be applied until the surface has been inspected and permission given to proceed. The cost for preparing the surface shall be included in the contract unit prices for the marking items.

Unless otherwise directed by the Engineer, traffic stripes that are conflicting with the thermoplastic stripe shall be removed prior to placement of the thermoplastic material. Removal of pavement markings shall be done by a means that will not gouge the surface of the pavement in a manner that requires patching to ensure the integrity of the pavement. Temporary paint stripe may be left in place when satisfactorily placed in the proper location. Any temporary stripe not covered shall be removed. Payment for removal of stripe, except temporary stripe, will be made under Section 202.

On newly constructed asphalt pavements, any sand, grit, or other surface contaminants shall be removed using compressed air and/or sweeping. Water blasting may be necessary to remove surface contaminants which cannot be removed by the use of compressed air and/or sweeping. This work is considered surface preparation.

The finished lines shall have well defined edges and the thickness of thermoplastic markings above the roadway surface shall be no less than 90 mils for edge lines, center lines, lane lines, barrier lines, and detail stripe including gore markings, and no less than 120 mils for crosswalks, stop lines, and railroad, word and symbol markings. The minimum thickness, as required above, will be measured in the center of the line when gauged. The minimum thickness one-half inch ($\frac{1}{2}$ ") from the edges shall not be less than 75% of the thickness required in the center.

Any thermoplastic traffic marking less than the required thickness shall be corrected by recapping at no additional costs to the Department. Although a thickness tolerance of 25 percent from center to edge is allowed, a consistent underrun of any amount in thickness as determined by the Engineer will not be acceptable.

The length and width of lines shall be within a tolerance of ± 3 inches and $\pm 1/8$ inch, respectively. For skip markings, the tolerance for intervals shall not exceed the line length tolerance. On curves, unsightly variations from the normal curvature will not be permitted unless specifically shown on the plans or ordered by the Engineer.

Heat-fused, pre-formed pavement markings shall be supplied with a minimum average thickness of 90 mils before application on the roadway surface.

All newly applied thermoplastic material shall be protected from traffic until the material is sufficiently dry so as not to sustain damage from vehicle tires. Any material so damaged by traffic shall be repaired, and the thermoplastic material tracked onto the pavement shall be removed and

replaced.

907-626.03.3--Reflectivity Requirements. The longitudinal pavement markings shall meet the following retroreflectivity values when measured within 10 to 30 calendar days of placement, after removing loose beads.

Table 1. Minimum Dry Retroreflectivity

Color	All Stripe without Rumble mcd/m ² /lx	Rumble Stripe mcd/m ² /lx
White	375	250
Yellow	225	150

For projects with less than two miles between the BOP and EOP, retroreflectivity measurements will not be required.

907-626.03.3.1--Measuring Devices. Retroreflectivity measurements are required to be taken using a vehicle mounted mobile retroreflectometer using 30-meter geometry with video and mapping capabilities as per AASHTO T-398. The retroreflectometer and operator shall be certified by the manufacturer, authorized representative of the manufacturer, or an MDOT approved program such as the Texas A&M Transportation Institute (TTI) Mobile Retroreflectometer Certification Program. The Contractor shall provide copies of current certifications for the operator(s) and the device(s) to the Engineer.

907-626.03.3.2--Acceptance Procedure. Averages of the mobile measurements shall be provided for every 0.1 miles unless otherwise specified or approved. Take measurements on each section of roadway for each series of markings (i.e., edge line, center skip line, each line of a double line, etc.) and for each direction of traffic flow. Measure each line in both directions for centerlines on two-way roadways (i.e., measure both double solid line in both directions and measure all center skip lines in both directions). Furnish measurements in compliance with the below requirements. Use all equipment in accordance with the manufacturer's recommendations and directions. Inform the Engineer at least 24 hours before taking any measurements.

A marking meets the retroreflectivity requirements if:

- The combined average retroreflectivity value for a one-mile segment meets the minimum retroreflectivity values specified, and
- Within the one-mile segment, no more than three consecutive 0.1 mile intervals shall have an average retroreflectivity value below the minimum required value.

The one-mile segment will start from the beginning of the data collection and end after a mile worth of measurements have been taken; each subsequent mile of measurements will be a new segment. If the remainder is 0.5 miles or less, it shall be included in the previous mile segment, otherwise the remaining segment of greater than 0.5 mile shall be its own segment. Centerlines with 2 stripes (either solid or broken) will result in 2 miles of data for each mile segment. Each centerline stripe must be tested for compliance as a stand-alone stripe.

The Contractor may elect to restripe with a minimum of 0.060 in. (60 mils) at no cost to the Department each one-mile segment that failed to meet the minimum retroreflectivity requirements.

Measurements shall be retaken within 10 to 30 calendar days after the second application for the mile segment for that series of markings. If the markings do not meet minimum retroreflectivity after the second application, the Engineer may require removal of all existing markings, a new application as initially specified, and a repeat of the application process until minimum retroreflectivity requirements are met.

907-626.03.3.3--Mobile Retroreflectivity Data Collection. Mobile Retroreflectivity Data Collection (MRDC) shall be conducted on dry pavement only and when the ambient air temperature is greater than 40°F. Data shall be submitted to the Engineer no later than 3 working days after the day the data is collected. Submit all raw data collected in addition to all other data submitted. Provide data files in Microsoft Excel format or a format approved by the Engineer. The data file and video must contain the following information.

907-626.03.3.3.1--Data File. Data files shall be provided with the following:

- Date;
- District;
- County;
- Name of mobile retroreflectometer operator;
- Route number with reference markers or other reference information provided by the Engineer to indicate the location of beginning and end data collection points on that roadway;
- Cardinal direction;
- Line type (single solid, single broken, double solid, etc.);
- Line color;
- File name corresponding to video;
- Data for each centerline listed separately;
- Average reading taken for each 0.1-mi. interval (or interval designated by the Engineer);
- Accurate GPS coordinates (within 20 ft.) for each interval;
- Color-coding for each interval indicating passing or failing, unless otherwise directed by the Engineer (passing and failing thresholds provided by the Engineer);
- Graphical representation of the MRDC (y-axis showing retroreflectivity and x-axis showing intervals) corresponding with each data file;
- Distance in miles driven while measuring the pavement markings;
- Event codes (pre-approved by the Engineer) indicating problems with measurement;
- Upper validation threshold (may be included separately with the raw data but must be clearly identified with the data collected using that threshold).

907-626.03.3.3.2--Map. A map shall be provided in an electronic format approved by the Engineer with each MRDC submission that includes the following information:

- Date;
- District number;
- County;

- Color-coded 1-mi. intervals (or interval length designated by the Engineer) for passing and failing retroreflectivity values or retroreflectivity threshold values provided by the Engineer; and
- Percentage of passing and failing intervals, if required by the Engineer.

907-626.03.3.3--Video. A high-quality video file shall be provided with the following information:

- Date and corresponding data file name on label;
- District number;
- County;
- Route number with reference markers or other designated reference information to indicate the location of beginning and end collection points on that roadway; and
- Retroreflectivity values presented on the same screen with the following information:
 - Date;
 - Location;
 - Starting and ending mileage;
 - Total miles;
 - Retroreflectivity readings; and
 - Upper validation thresholds (may be included separately with the raw data but must be clearly identified with the data collected using that threshold).

907-626.03.4--Reflectivity Verification Testing. The Engineer or a third party may perform retroreflectivity verification testing on any project. At a minimum, each Contractor performing work for the Department will be verified on an annual basis. The Contractor-submitted retroreflectivity data will be compared to the verification test data to determine acceptability of the Contractor's mobile retroreflectometer data. Comparison of the data will result in one of the two scenarios below:

- Contractor's Data is Validated – If the difference between Contractor's and Engineer/third party data is 20% or less, then the Contractor's data is validated. The Contractor's data will be used for acceptance.
- Contractor's Data is not Validated – If the difference between the Contractor's and Engineer/third party data is more than 20%, then the Contractor's data is not validated. The Engineer/third party data will be used for acceptance and the Contractor will be required to take corrective action prior to additional Contractor data collection and may require re-certification of the mobile retroreflectometer.

907-626.04--Method of Measurement. Thermoplastic stripe completed in accordance with the plans and specifications will be measured by the mile or by the linear foot, as indicated, from end-to-end of individual stripes. In the case of skip lines the measurement will include skip intervals. The length used to measure centerline, lane lines, and edge stripes will be the horizontal length computed along the roadway.

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

strips are specified. Stripes more than six inches (6") in width will be converted to equivalent lengths of 6-inch stripe.

Hot-applied legend, which is to include railroad markings, pedestrian crosswalks, and stop lines, will be measured by the square foot or linear foot. Pay areas of individual letters and symbols will usually be shown on the plans and measured by the square foot. Transverse railroad bands, pedestrian crosswalks and stop lines will generally be measured by the linear foot, in which case, stripes more than six inches (6") in width will be converted to equivalent lengths of 6-inch widths.

Pre-formed legend which is to include railroad markings and pedestrian crosswalks will be measured and paid for by each.

The length measured for thermoplastic audible bump edge stripe will not include the permanent thermoplastic edge stripe. Permanent thermoplastic edge stripe will be measured for payment under a separate pay item.

Thermoplastic audible bar centerline skip stripe will be measured by the linear foot or mile. Measurements will be made along the surface from end-to-end of the stripe and will include skip intervals. The length used to measure audible bar centerline stripe will be the horizontal length computed along the roadway. The length measured for thermoplastic audible bar centerline skip stripe will not include the permanent centerline continuous or skip stripe. Permanent centerline continuous and skip stripe will be measured for payment under separate pay items.

Thermoplastic audible bar edge stripe will be measured by the linear foot or mile. Measurements will be made along the surface from end-to-end of the stripe. The length used to measure thermoplastic audible bar edge stripe will be the horizontal length computed along the roadway. The length measured for thermoplastic audible bar edge stripe will not include the permanent thermoplastic edge stripe. Permanent thermoplastic edge stripe will be measured for payment under a separate pay item.

907-626.05--Basis of Payment. Thermoplastic traffic markings will be paid for at the contract unit price per mile, linear foot, square foot or each as applicable. Any deductions for non-satisfactory material test results will be made after final testing has been performed.

Payment will be made under:

907-626-A:	6" Thermoplastic Traffic Stripe, Skip White	- per linear foot or mile
907-626-B:	6" Thermoplastic Traffic Stripe, Continuous White	- per linear foot or mile
907-626-C:	6" Thermoplastic Edge Stripe, Continuous White	- per linear foot or mile
907-626-D:	6" Thermoplastic Traffic Stripe, Skip Yellow	- per linear foot or mile
907-626-E:	6" Thermoplastic Traffic Stripe, Continuous Yellow	- per linear foot or mile

907-626-F:	6" Thermoplastic Edge Stripe, Continuous Yellow	- per linear foot or mile
907-626-G:	Thermoplastic Detail Stripe, Color *	- per linear foot
907-626-H:	Thermoplastic Legend, Color *	- per linear foot, square foot, or per each
907-626-Q:	Thermoplastic Audible Bump Edge Stripe	-per linear foot or mile
907-626-R:	Thermoplastic Detail Audible *** Stripe, Color **,	-per mile
907-626-AA:	6" High Contrast Thermoplastic Traffic Stripe, Skip White	- per linear foot or mile
907-626-BB:	6" High Contrast Thermoplastic Traffic Stripe, Continuous White	- per linear foot or mile
907-626-CC:	6" High Contrast Thermoplastic Edge Stripe, Continuous White	- per linear foot or mile
907-626-DD:	6" High Contrast Thermoplastic Traffic Stripe, Skip Yellow	- per linear foot or mile
907-626-EE:	6" High Contrast Thermoplastic Traffic Stripe, Continuous Yellow	- per linear foot or mile
907-626-FF:	6" High Contrast Thermoplastic Edge Stripe, Continuous Yellow	- per linear foot or mile
907-626-GG:	High Contrast Thermoplastic Detail Stripe, Color *	- per linear foot
907-626-HH:	High Contrast Thermoplastic Legend, Color *	- per linear foot, square foot, or each

* Indicate Blue - ADA if applicable

** Indicate White or Black

*** Indicate Centerline - Passing Zone, Centerline - No-Passing Zone, or Edge Line

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-720-4

CODE: (IS)

DATE: 06/17/2025

SUBJECT: Pavement Marking Materials

Section 720, Pavement Marking Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete Section 720 on pages 840 thru 854, and substitute the following.

SECTION 720 - PAVEMENT MARKING MATERIALS

907-720.01--General. The Department reserves the right to perform sampling and testing of any materials at any time. Upon request of the Engineer, samples of the material shall be furnished.

907-720.02--Color Requirements. All pavement markings except raised pavement markers are required to meet the color requirements of ASTM D6628.

907-720.03--Optics. Optics used in thermoplastic pavement markings shall consist of a double-drop system of glass beads or advanced optics.

907-720.03.1--Glass Beads. The manufacturer shall furnish the Engineer with a certified test report indicating that the glass beads meet AASHTO M 247. AASHTO Type 4 beads shall be applied to the newly placed stripe first, followed by the application of AASHTO Type 1 or Type 2 beads. Type 1, 2, and 4 glass beads shall be transparent, clean, colorless glass, smooth and spherically shaped, free from milkiness, pits, or excessive air bubbles. Type 1, 2, and 4 glass beads shall be coated with a bead coating that is compatible with the traffic marking material to which the glass beads will be applied and will provide adequate moisture proofing, increased adhesion, and optimum embedment of the glass beads.

907-720.03.1.1—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual).

907-720.03.2--Advanced Optics. Advanced optics are materials that do not meet the specific requirements of AASHTO M 247 but produce a final drop-on optics system that meets or exceeds the reflectivity requirements in Special Provision 907-626. Advanced optics shall be a double-

drop system that is pre-approved and listed on the Department's Approved Products List.

907-720.03.2.1—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing may be conducted at the request of the Engineer.

907-720.04--Thermoplastic Marking Material. Thermoplastic marking material shall meet the color requirements of Subsection 907-720.02.

There shall be no obvious change in the color of the material if held at its plastic temperature for a period of four (4) hours nor by reason of four (4) re-heatings to its plastic temperature.

The pavement markings shall maintain its original dimension and placement. The material shall not be slippery when wet and it shall not lift from the pavement in freezing weather.

907-720.04.1--Extruded Thermoplastic Material. Extruded thermoplastic pavement marking material shall meet the requirements of AASHTO M 249, and shall meet the requirements of 907-720.04 with the following exceptions:

- Blue - ADA thermoplastic marking material shall meet the requirements of Subsection 907-720.04.2 with the exception that the color shall be Blue – ADA, and the Contractor may use hot applied thermoplastic materials meeting the satisfaction of the Engineer.

907-720.04.2--Spray-Applied Thermoplastic Material. Spray-applied thermoplastic pavement marking material shall meet the requirements of AASHTO M 249 and shall meet the requirements of 907-720.04.

907-720.04.3--Pre-formed Thermoplastic Material. Heat-fused, pre-formed thermoplastic pavement marking material shall meet the color requirements of 907-720.02.

907-720.04.4—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.05--Pavement Marking Tape. Pavement marking tape shall be listed on the Department's Approved Lists.

907-720.05.1—Cold Plastic Pavement Markings (Permanent Pavement Marking Tape). Pavement marking tape for use in roadway applications shall be designated on the Department's Approved Lists as permanent.

The prefabricated markings described shall consist of white or yellow pigmented plastic films with reflective optics uniformly distributed throughout their entire cross-sectional area, and be capable of being affixed by either a pressure sensitive pre-coated adhesive or a liquid contact cement. The markings shall be provided complete in a form that will facilitate rapid application and protect the markings in shipment and storage. The manufacturer shall identify proper solvents and/or adhesives to be applied at the time of application, all equipment necessary for proper application, and recommendations for application that will assure an effective performance life.

Prefabricated legends and symbols shall conform to the applicable shapes and sizes as outlined in the current "Manual on Uniform Traffic Control Devices."

907-720.05.1.1--Specific Requirements. Unless otherwise indicated on the plans, the patterned material without adhesive shall have a minimum caliper of 0.065 inch at the thickest portion of the patterned cross-section and a minimum caliper of 0.020 inch at the thinnest portion of the cross-section. The material shall be a pliant polymer film with 50±15% of the surface are raised and presenting a near vertical face angle of 0° to 60° to traffic from any direction. The channels between the raised areas shall be substantially free of exposed optics or particles.

The size and quality of the optics will be such that performance requirements of Subsection 907-720.02 for the retroreflective pliant polymer film shall be met. The pigments shall be selected and blended to provide a marking film that is white or yellow conforming to the performance requirements of Subsection 907-720.02 through the expected life of the film.

907-720.05.1.2--Conformability and Resealing. The marking shall be capable of conforming to pavement contours, breaks, faults, etc. through the action of traffic at normal pavement temperatures.

The marking shall have resealing characteristics that allows it to be capable of fusing with itself and previously applied marking of the same composition under normal conditions of use. The marking shall be capable of use for patching worn areas of the same type in accordance with manufacturer's instructions.

907-720.05.1.3--Tensile Strength and Elongation. The material shall have a minimum tensile strength of 40 pounds per square inch of cross section when tested according to ASTM D 638. A 6-inch x 1-inch x 0.06-inch sample shall be tested at a temperature between 70°F and 80°F using a jaw speed of 12 inches per minute.

The material shall have a minimum elongation of 75% at break when tested according to ASTM D 638 using a jaw speed of 12 inches per minute.

907-720.05.1.4--Skid Resistance. The surface of the material shall provide a minimum skid resistance value of 45 BPN when tested according to ASTM E 303 except values will be taken at

downweb and at a 45-degree angle from downweb. These two values will then be averaged to find the skid resistance of the patterned surface.

907-720.05.1.5--Effective Performance Life and Warranty. When applied according to the recommendations of the manufacturer the pavement marking tape shall provide a neat and durable marking that will not flow or distort due to temperature if the pavement surface remains stable. The film shall be weather resistant and through normal traffic wear shall show no appreciable fading, lifting, or shrinkage throughout the useful life of the marking, nor shall it show significant tearing, roll back, or other signs of poor adhesion.

All manufacturer's standard warranties and guarantees on pavement marking tape, which are provided as customary trade practice, shall be delivered to the Engineer at the final inspection. All warranties and guarantees shall be made out to the Department.

907-720.05.1.6—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual). Samples of the material shall be furnished and shall be provided at no cost to the State.

907-720.05.2--Preformed Pavement Markings for Construction Zones. Preformed pavement markings for construction zones shall be designated Department's Approved Lists as temporary. Retroreflective preformed pavement markings for construction zones shall be as specified on the plans or in the contract documents.

The markings shall be provided in specified widths and shapes. Preformed words and symbols shall conform to the applicable shapes and sizes as outlined in the current "Manual on Uniform Traffic Control Devices for Streets and Highways," or as modified.

The materials shall be packaged in accordance with accepted commercial standards and when stored indoors in a cool dry place, shall be suitable for use one year after date of purchase.

907-720.05.2.1--Specific Requirements. Preformed markings shall consist of retroreflective materials on a conformable backing and shall meet the performance requirements of Subsection 907-720.02. The markings shall consist of a mixture of high-quality polymeric materials, pigments, and optics with a reflective layer of optics bonded to the top surface. The markings shall be pre-coated with a pressure sensitive adhesive capable of adhering to pavement in accordance with the manufacturer's instructions without the use of heat, solvents, or other additional adhesives. The markings and/or adhesive shall not require any curing time after application. A coated non-metallic medium shall be incorporated with the pressure sensitive adhesive to facilitate removal.

907-720.05.2.2—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.06--Raised Pavement Markers. Pavement markers shall be listed on the Department's Approved Lists and shall conform to ASTM D 4280.

907-720.06.1--Packaging. Shipments shall be made in containers acceptable to common carriers and packaged in such a manner as to ensure delivery in perfect condition. All damaged shipments shall be replaced by the Contractor. Each package shall be clearly marked as to the name of the manufacturer, type, quantity enclosed, lot number, and date of manufacture.

907-720.06.2--Non-Reflective Pavement Markers. Non-reflective pavement markers are occasionally referred to as "jiggle markers". Non-reflective markers consisting of a heat-fired, vitreous, ceramic base, and a heat-fired, opaque, glazed surface are permitted for use; the bottom of the marker shall not be glazed. Ceramic markers shall be produced from any suitable combination of intimately mixed clays, shales, talcs, flints, feldspars, or other inorganic material. Ceramic markers shall be thoroughly and evenly matured, and all non-reflective pavement markers shall be free from defects which affect appearance or serviceability.

Ceramic non-reflective markers shall conform to the following finish and testing requirements in Table 2 below.

Table 2

Ceramic Non-Reflective Marker Requirements	
Glaze Thickness	0.005 inch, minimum
Mohs Hardness	6, minimum
Autoclave	Glaze shall not spall, craze, or peel.
Compressive Strength	750 psi, minimum
Water Absorption	2.0%, maximum

907-720.06.3—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.07--Adhesive for Pavement Markers. The adhesive shall be listed on the Department's Approved Lists and shall be an asphaltic material suitable for bonding pavement markers to surfaces when the road surface and marker temperatures are in the range of 50°F to 160°F. The composition of the adhesive must be such that its properties will not deteriorate when heated to and applied at temperatures up to 425°F. Samples may be submitted in the form of an adhesive

testing package from each batch or material obtained from a package shipped to the project.

907-720.07.1--Packaging and Labeling. The adhesive shall be packaged in self-releasing cardboard containers that will stack properly. The label shall show the manufacturer, quantity, and lot or batch number. "Adhesive for Pavement Markers" or "Adhesive for Traffic Markers" shall be printed in bold lettering on the label.

907-720.07.2--Bituminous Adhesive. The asphaltic adhesive material shall be flexible type.

907-720.07.2.1--Flexible Bituminous Adhesive. Flexible bituminous adhesive shall be designated on the Department's Approved Lists as flexible and shall comply with requirements of Table 3 below.

Table 3

Flexible Bituminous Adhesive Properties			
	Min	Max	Test Method
Penetration @ 77°F	-	25	ASTM D 5
Softening Point, °F	200	-	ASTM D 36
Brookfield Viscosity @ 400°F, cp.	-	10,000	ASTM D 3236
Ductility @ 77°F, 5 cm/min	15	-	ASTM D 113
Ductility @ 39.2°F, 1 cm/min	5	-	ASTM D 113
Asphalt Compatibility	Pass		ASTM D 5329
Flexibility @ 20°F	Pass		Per Subsection

907-720.07.3—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual). Samples of the material shall be furnished and shall be provided at no cost to the State.

Mill & Overlay approximately 8 miles of US 49 East from 0.2 mile north of the SR 12 Intersection to Tchula & approximately 0.4 mile of SR 835 from US 49 East to the end of State Maintenance, known as State Project Nos. SP-0008-04(072) / 108938301 & SP-0008-04(075) / 108938302 in Holmes County.

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
Roadway Items					
0010	202-B007		90	Square Yard	Removal of Asphalt Pavement, All Depths
0020	202-B136		1,124	Linear Feet	Removal of Guard Rail
0030	202-B240		2,000	Linear Feet	Removal of Traffic Stripe
0040	203-G001	(E)	15	Cubic Yard	Excess Excavation, FM, AH
0050	304-B004	(GT)	9,580	Ton	Granular Material, Class 5, Group D
0060	406-D001		8,500	Square Yard	Fine Milling of Bituminous Pavement, All Depths
0070	407-A001	(A2)	8,000	Gallon	Asphalt for Tack Coat
0072	412-A001		1,212	Square Feet	Pre-Grinding [\$3.25]
0080	423-A001		13	Mile	Rumble Strips, Ground In
0090	503-C010		171	Linear Feet	Saw Cut, Full Depth
0100	606-B001		625	Linear Feet	Guard Rail, Class A, Type 1
0110	606-D019		4	Each	Guard Rail, Bridge End Section, Type H
0120	606-D022		4	Each	Guard Rail, Bridge End Section, Type I
0130	606-E005		8	Each	Guard Rail, Terminal End Section, Flared
0140	618-B001		2	Square Feet	Additional Construction Signs [\$10.00]
0150	619-A1001		14	Mile	Temporary Traffic Stripe, Continuous White
0160	619-A2001		4	Mile	Temporary Traffic Stripe, Continuous Yellow
0170	619-A4002		7	Mile	Temporary Traffic Stripe, Skip Yellow
0180	619-A5001		750	Linear Feet	Temporary Traffic Stripe, Detail
0190	619-A6001		100	Square Feet	Temporary Traffic Stripe, Legend
0200	619-A6002		1,000	Linear Feet	Temporary Traffic Stripe, Legend
0210	620-A001		1	Lump Sum	Mobilization
0220	630-F006		44	Each	Delineators, Guard Rail, White
0230	630-G005		12	Each	Type 3 Object Markers, OM-3R or OM-3L, Post Mounted
0240	907-403-A015	(BA1)	11,100	Ton	9.5-mm, ST, Asphalt Pavement
0250	907-403-B006	(BA1)	61	Ton	19-mm, ST, Asphalt Pavement, Leveling
0260	907-420-A001		6,000	Pounds	Undersealing
0270	907-618-A001		1	Lump Sum	Maintenance of Traffic
0280	907-619-B001		66	Linear Feet	Temporary Portable Rumble Strips
0290	907-626-B004		14	Mile	6" Thermoplastic Double Drop Traffic Stripe, Continuous White
0300	907-626-D003		7	Mile	6" Thermoplastic Double Drop Traffic Stripe, Skip Yellow
0310	907-626-E003		4	Mile	6" Thermoplastic Double Drop Traffic Stripe, Continuous Yellow

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
0320	907-626-G006		1,850	Linear Feet	Thermoplastic Double Drop Detail Stripe, White
0330	907-626-G007		650	Linear Feet	Thermoplastic Double Drop Detail Stripe, Yellow
0340	907-626-H006		126	Square Feet	Thermoplastic Double Drop Legend, White
0350	907-626-H007		1,100	Linear Feet	Thermoplastic Double Drop Legend, White
0360	907-627-J001		1,500	Each	Two-Way Clear Reflective High Performance Raised Markers
0370	907-627-L001		750	Each	Two-Way Yellow Reflective High Performance Raised Markers
0380	907-899-A001		1	Lump Sum	Railway-Highway Provisions