Keyed

18 -



SM No. CMP3003750051

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

18

Overlay approximately 12 miles of SR 3 from US 61 to the Yazoo County Line, known as State Project No. MP-3003-75(005) / 306456301 in Warren County.

Project Completion: 57 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

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(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET OF SECTION 905 AS ADDENDA)
04/25/2018 01:04 PM

SECTION 901 - ADVERTISEMENT

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

Overlay approximately 12 miles of SR 3 from US 61 to the Yazoo County Line, known as State Project No. MP-3003-75(005) / 306456301 in Warren 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.

The 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.

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

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.

CODE: (SP)

SECTION 904 - NOTICE TO BIDDERS NO. 3

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.

CODE: (IS)

SECTION 904 - NOTICE TO BIDDERS NO. 9

SUBJECT: Federal Bridge Formula

03/01/2017

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

DATE:

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

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.

CODE: (SP)

SECTION 904 - NOTICE TO BIDDERS NO. 113

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

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.

CODE: (SP)

SECTION 904 – NOTICE TO BIDDERS NO. 401

DATE: 09/12/2017

SUBJECT: Standard Drawings

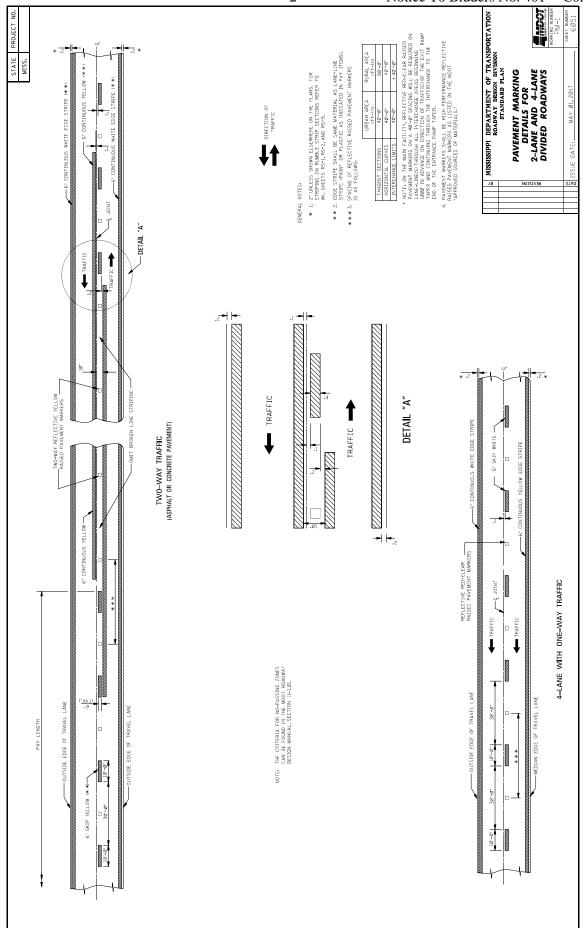
Standard Drawings attached hereto shall govern appropriate items of required work.

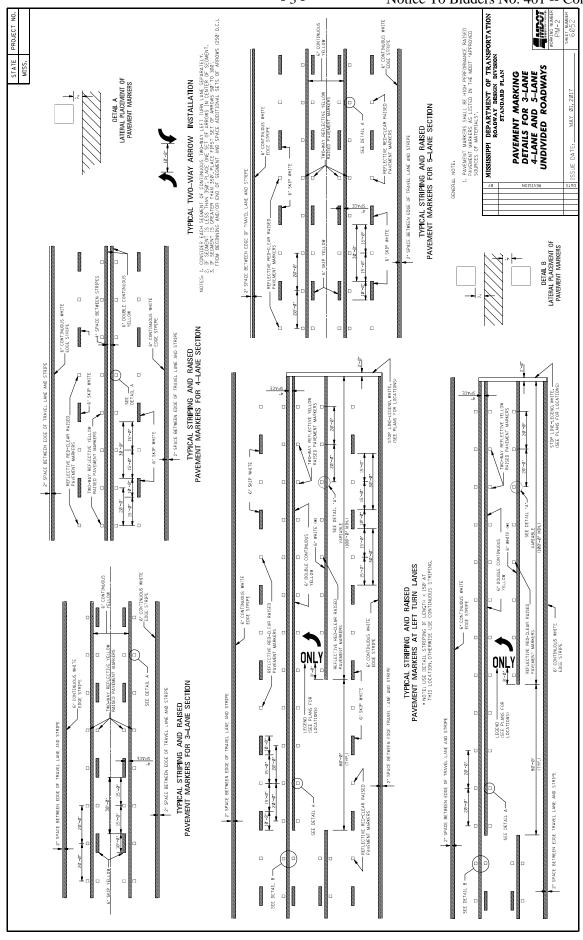
Larger copies of Standard Drawings may be purchased from:

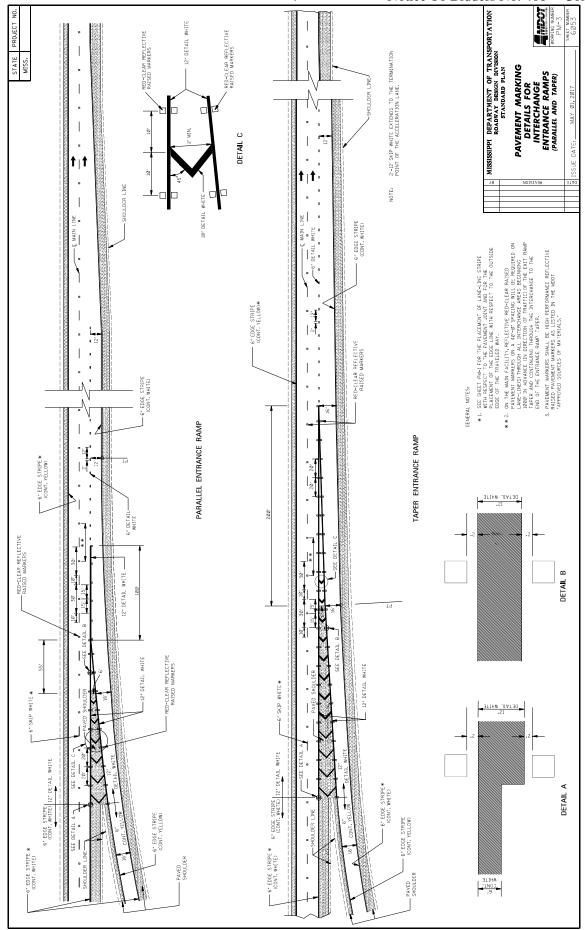
MDOT Plans Print Shop MDOT Shop Complex, Building C, Room 114 2567 North West Street P.O. Box 1850 Jackson, MS 39215-1850 Telephone: (601) 359-7460

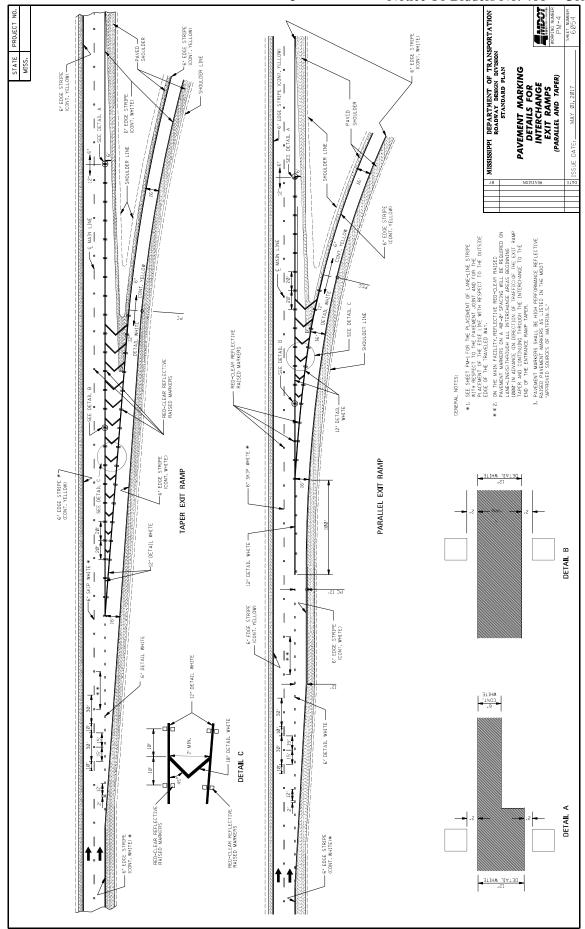
or FAX: (601) 359-7461

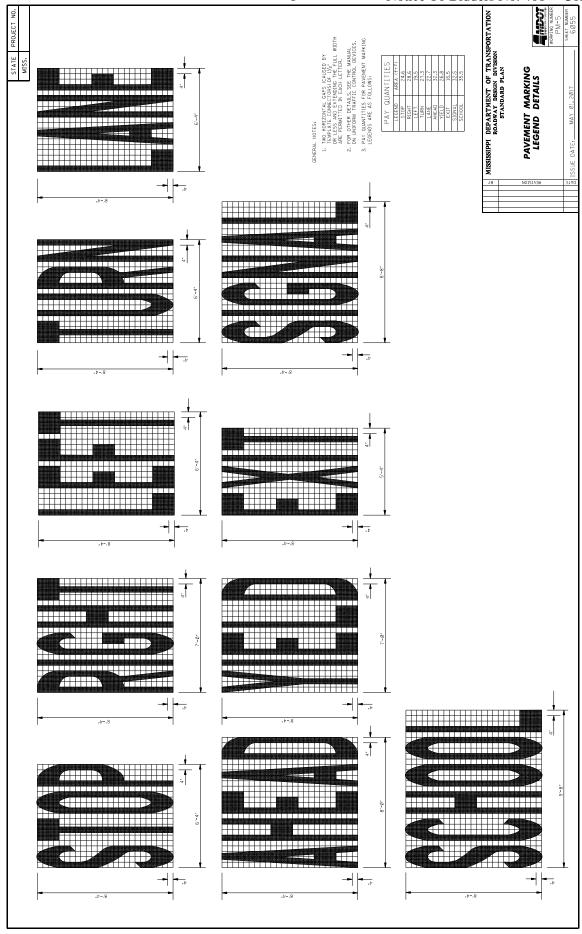
or e-mail: plans@mdot.state.ms.us

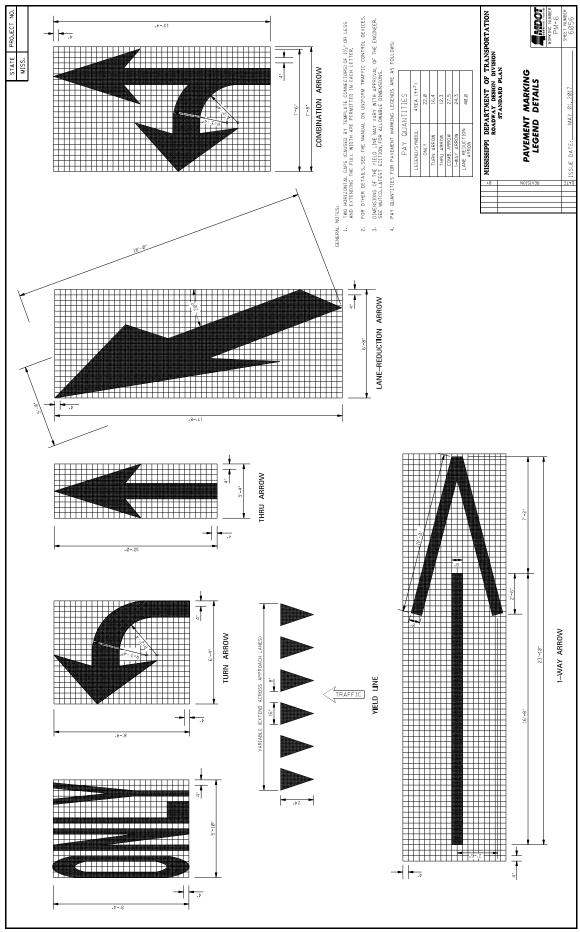


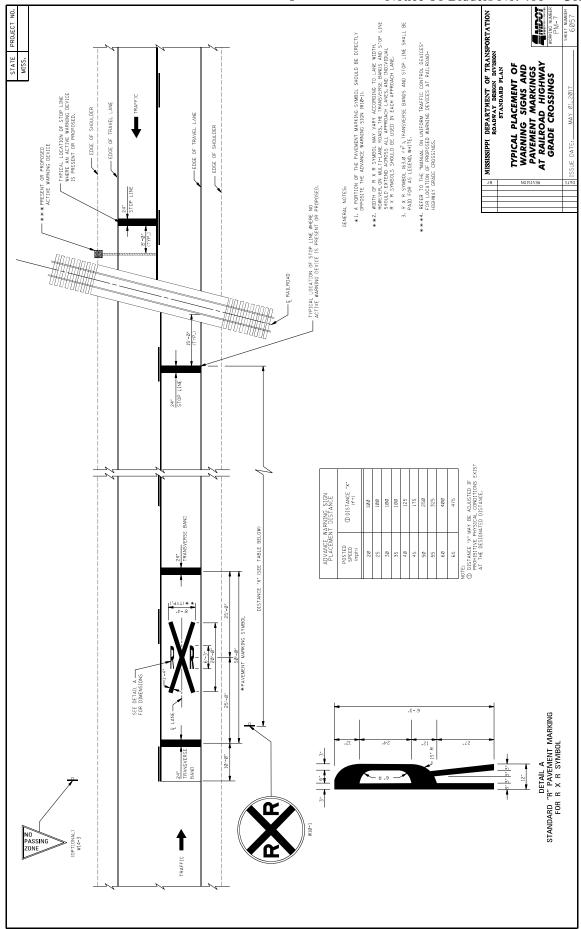


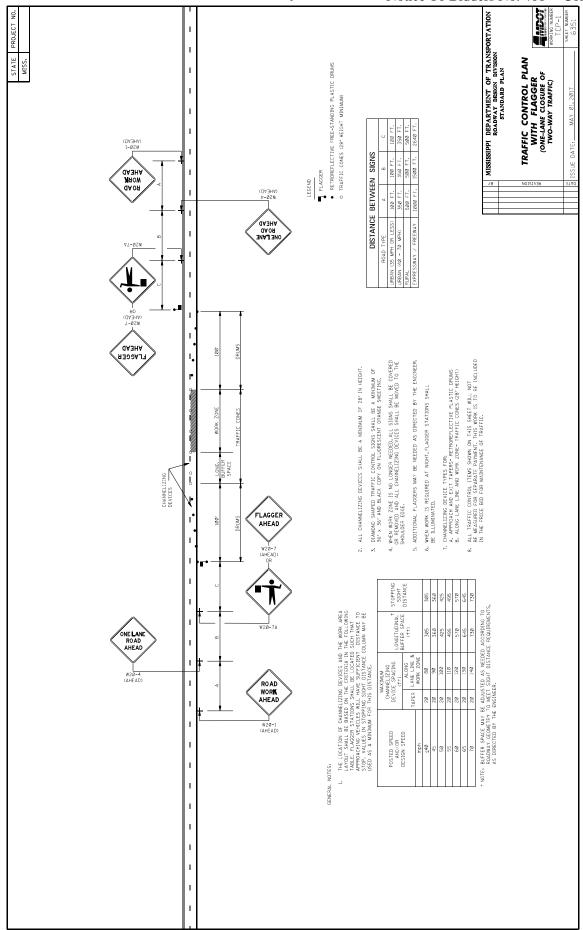


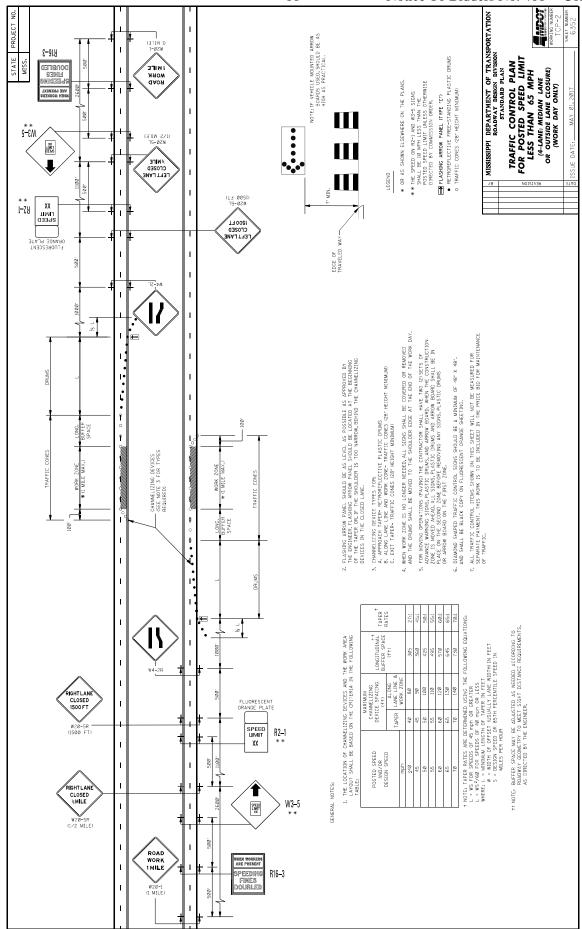


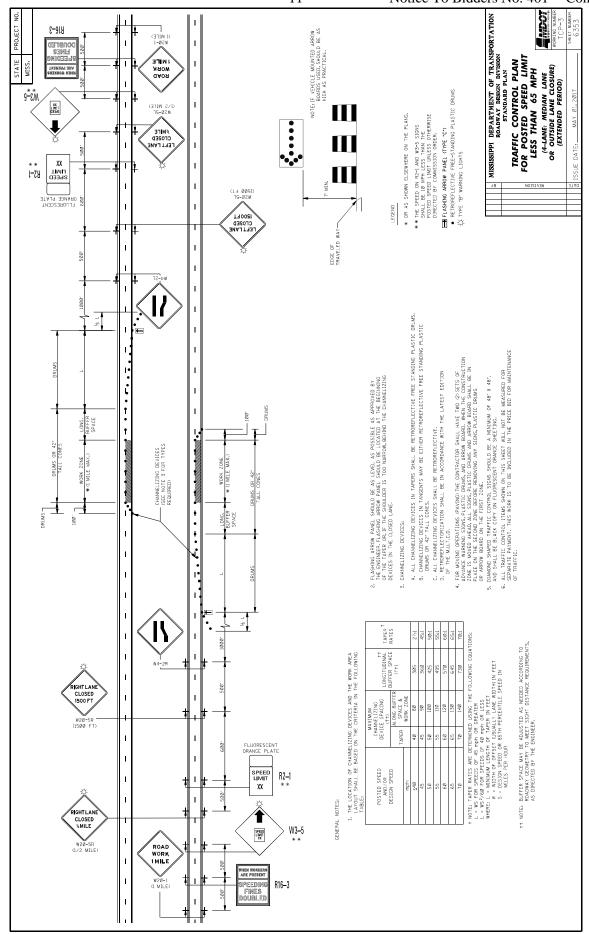


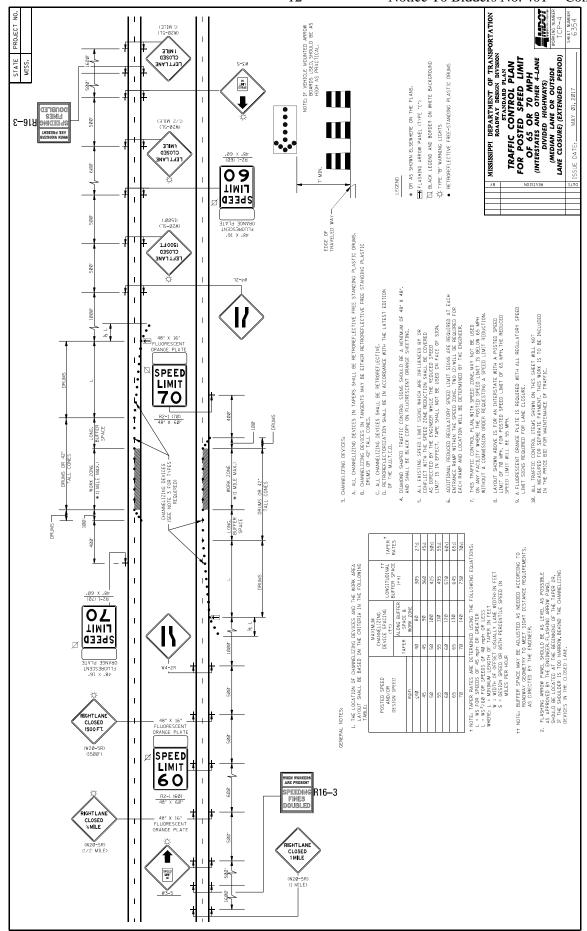


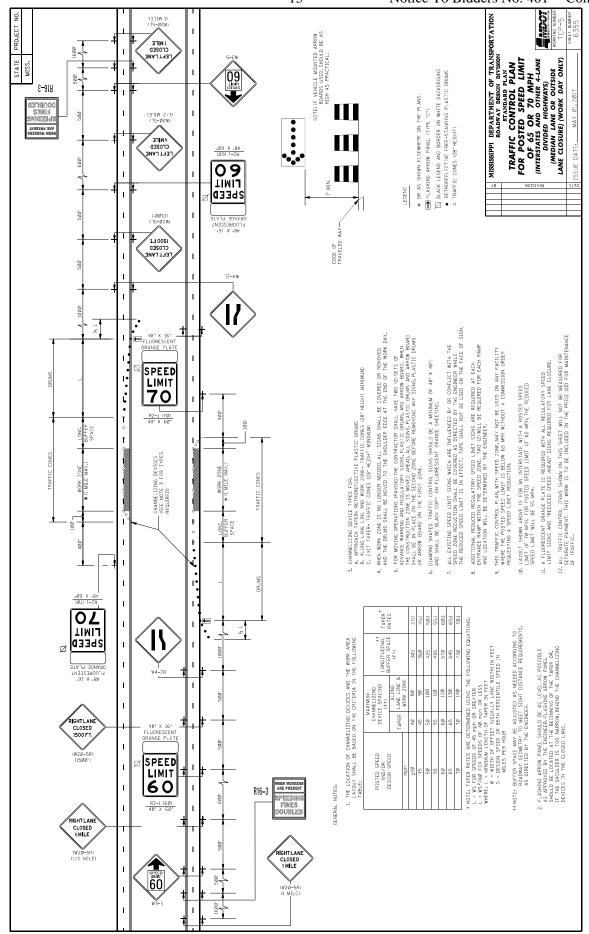


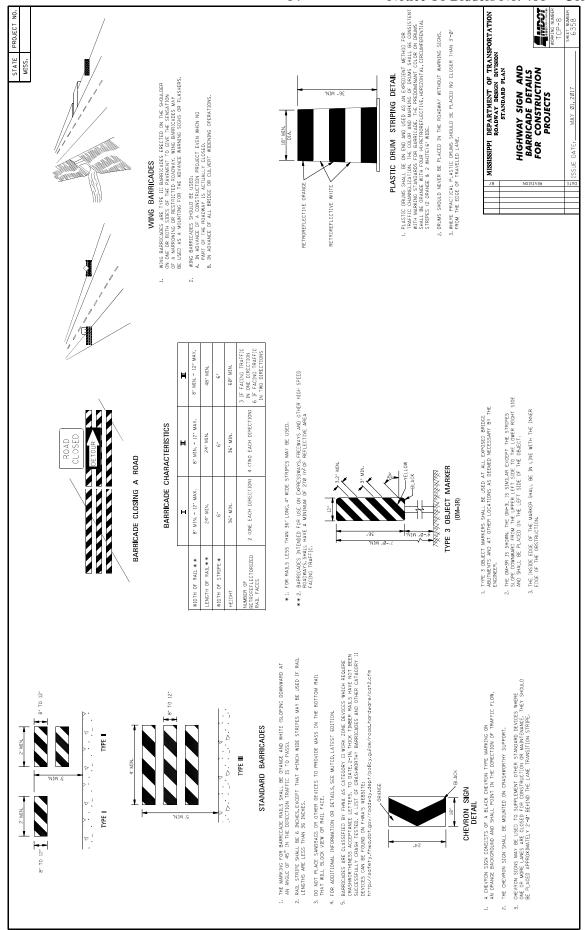


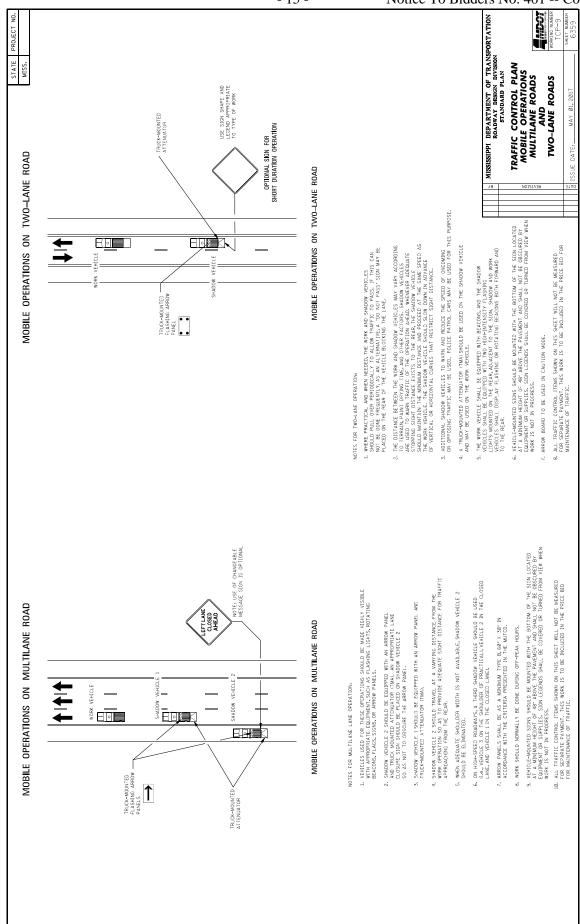


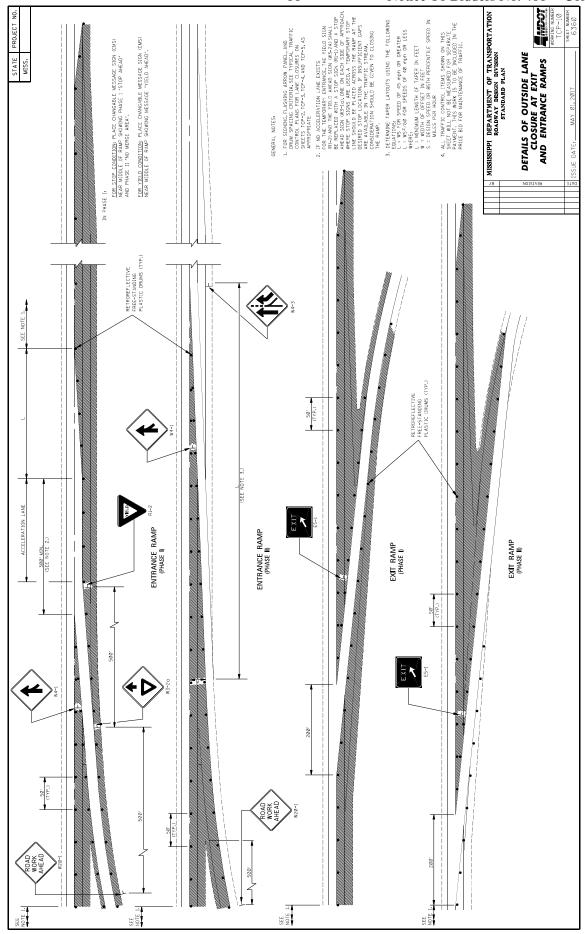


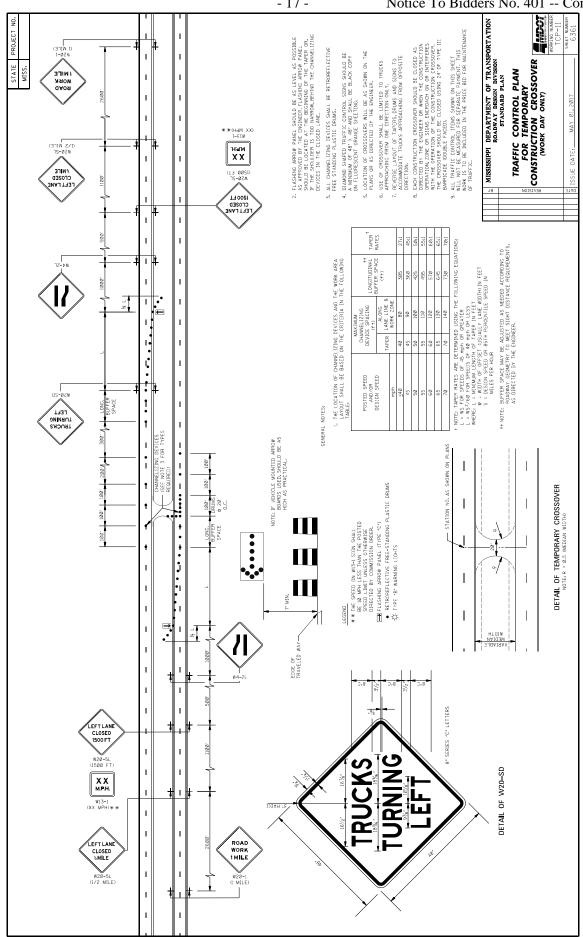


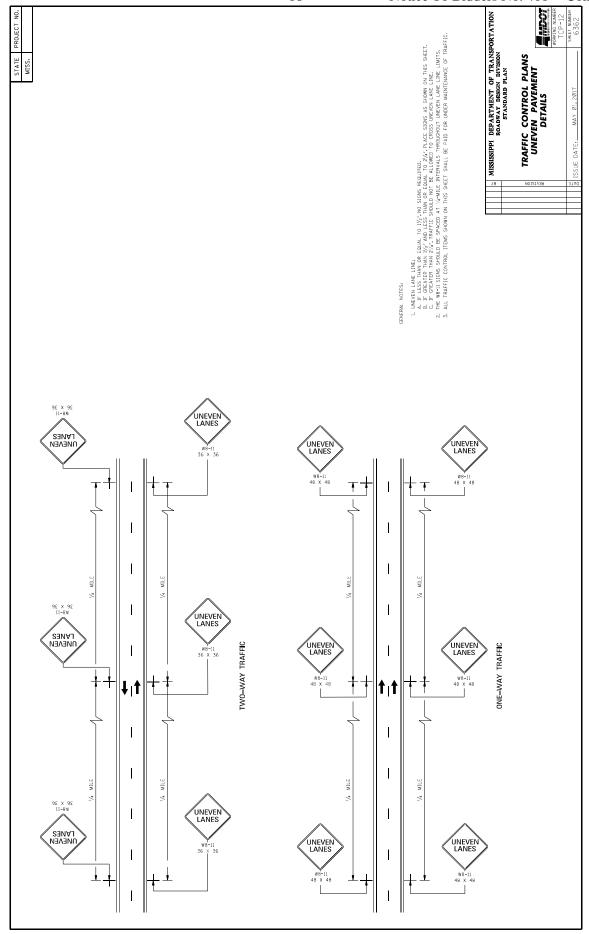


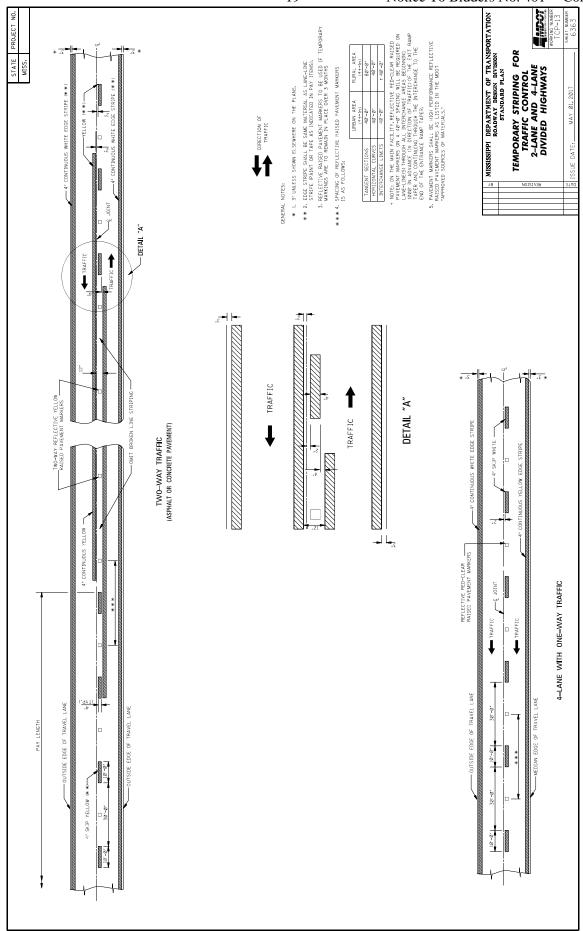


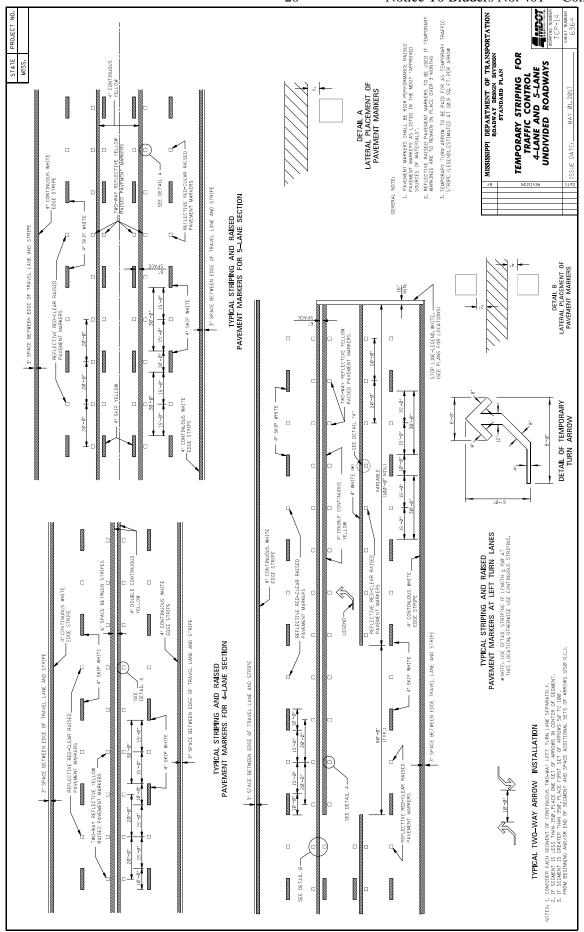


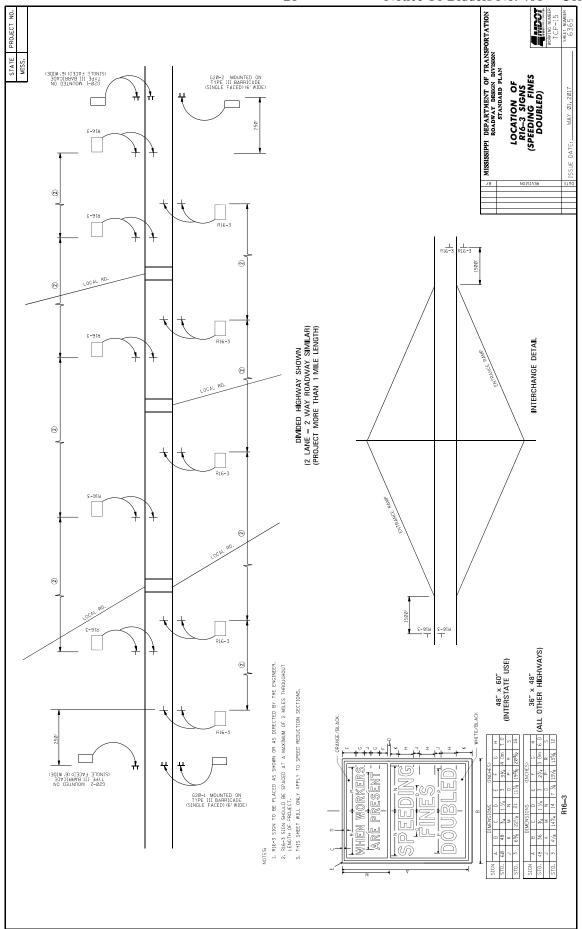


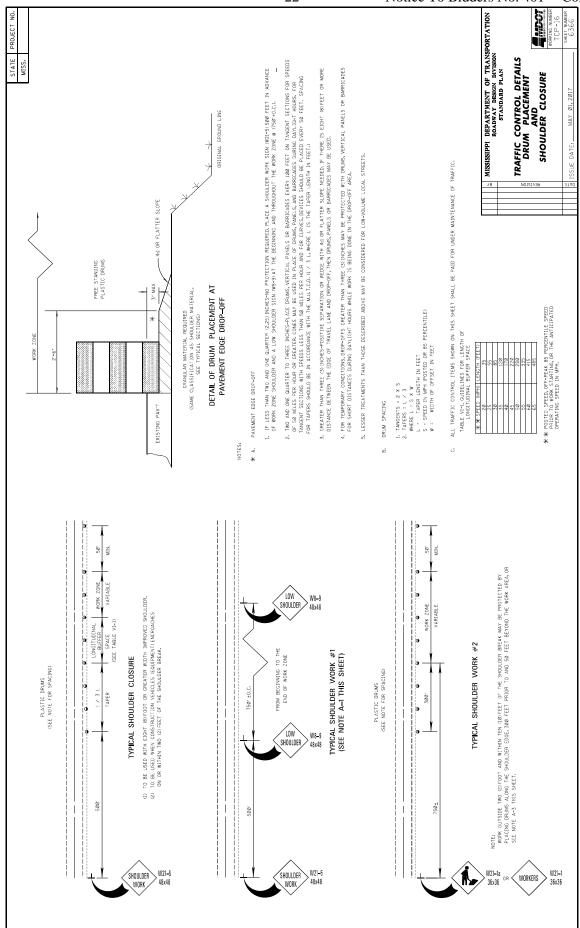


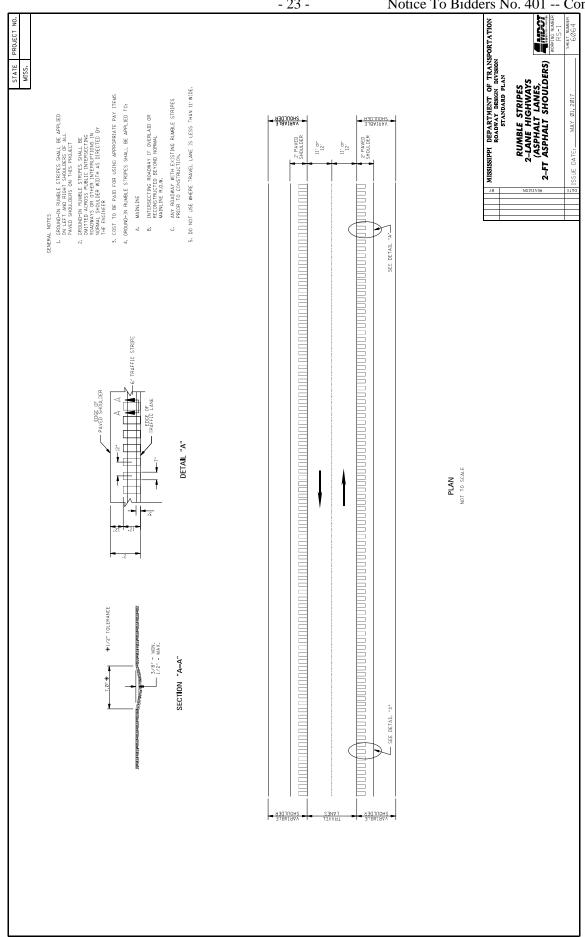


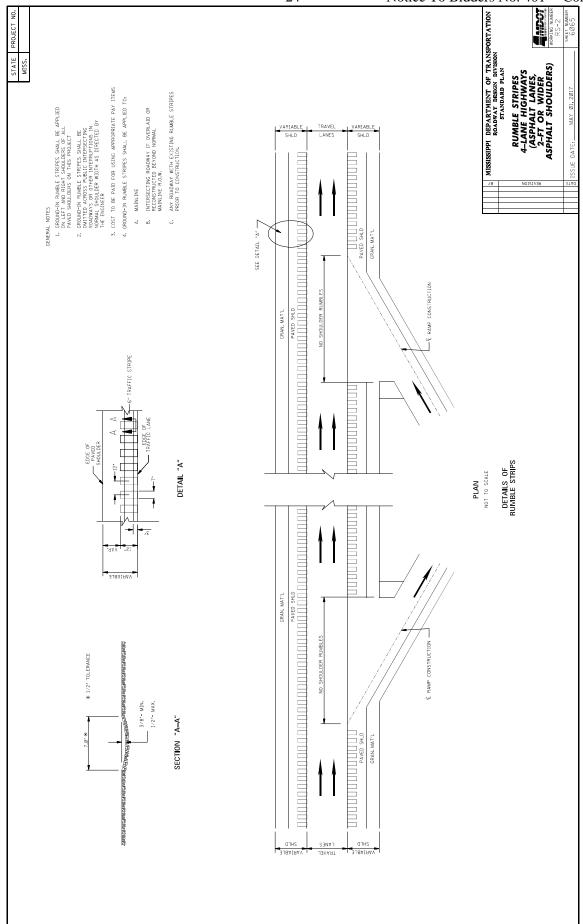


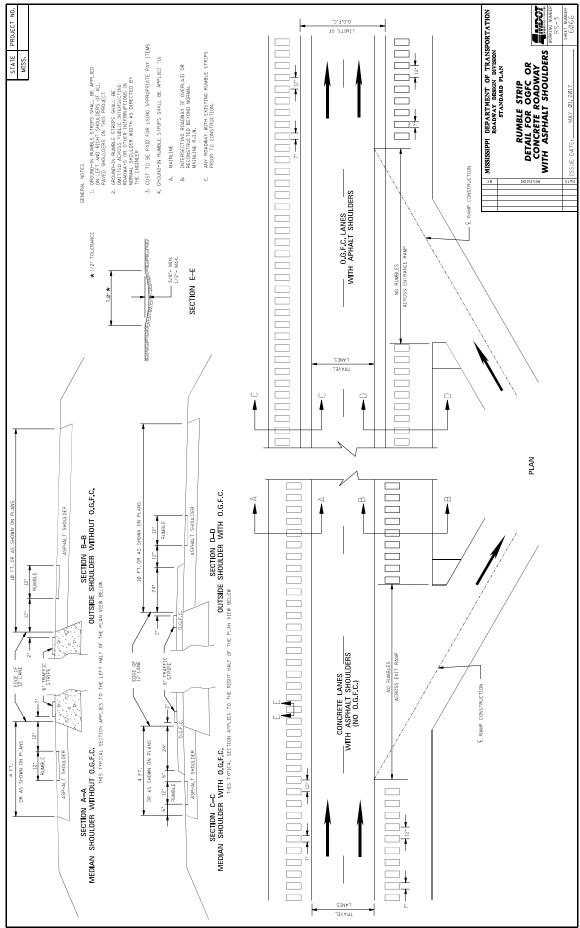












SECTION 904 - NOTICE TO BIDDERS NO. 445 CODE: (SP)

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.**

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

DATE: 11/28/2017

SUBJECT: Errata and Modifications to the 2017 Standard Specifications

| <u>Page</u> | Subsection | <u>Change</u> |
|-------------|------------|--|
| 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." |

SECTION 904 - NOTICE TO BIDDERS NO. 801 CODE: (SP)

DATE: 02/27/2018

SUBJECT: Contract Time

PROJECT: MP-3003-75(005) / 306456301 – Warren 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 <u>June 12, 2018</u> and the date for Notice to Proceed / Beginning of Contract Time will be <u>July 12, 2018</u>.

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

<u>57</u> Working Days have been allowed for the completion of work on this project.

CODE: (SP)

SECTION 904 – NOTICE TO BIDDERS NO. 802

DATE: 3/2/2018

SUBJECT: Scope of Work

PROJECT: MP-3003-75-(005) / 306456301 -- Warren 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." All other references to plans in the contract documents and Standard Specification for Road and Bridge Construction are to be disregarded.

Work on the project shall consist of the following:

<u>HIGHWAY 3</u> <u>OVERLAY FROM US 61 (LOG MILE 0.000) TO THE</u> <u>YAZOO COUNTY LINE (LOG MILE 11.527)</u>

- 1. The Contractor shall erect and maintain construction signing, provide all signs, set up night time lane closures if needed and traffic handling devices in accordance with the Traffic Control Plan (the costs are to be included in the price bid for pay item No. 618-A, Maintenance of Traffic). All traffic control devices on this project should comply with Part VI of the MUTCD (Latest Edition). Fluorescent orange sheeting shall be used on all construction and traffic control signs except for those designated in plans to be black legend and border on white background. The Contractor will be required to use 42 inch chanellizer cones with 6-inch wide reflective tape and a 16-pound vertical panel base for each cone.
- 2. Remove any failed areas on the main facility as directed by the Project Engineer using the following construction sequence.
 - A) Saw cut full depth through the asphalt and concrete. The saw cut for the concrete pavement may be offset from the saw cut for the asphalt pavement. Cost of saw cut shall be absorbed in other pay items.
 - B) Remove the failed pavement.
 - C) Remove any unsuitable material in the subgrade as directed by the Project Engineer.
 - D) Backfill and stabilize failed area with crushed stone base in lifts to an elevation five inches (5") below the original finished pavement elevation. No lift of crushed stone base shall be greater than six inches (6") in thickness.
 - E) Backfill with two lifts of asphalt, 2½ inches each lift, for a total of five inches (5"). The final grade of asphalt shall match the existing grade of the highway. All repairs must be complete by the end of the work day and the lane closures must be removed from the roadway so that all lanes of travel are open thereafter.

- F) Locations for dig outs are provided. All locations will be marked by the MDOT prior to the repair work.
- 3. Cold Mill the roadway at the B.O.P., E.O.P, curb and gutter sections and bridge ends as designated by the Project Engineer to ensure smooth transitions of new overlay with existing grade. At the bridge ends the Contractor will mill ¾" and variable for the length of the longest guardrail section and then taper the milling out to zero using a ½ inch per 50 feet taper. It is the Contractor's responsibility to insure the drainage of surface water from the milled areas. Temporary wedges of full lane width asphalt shall be placed by the Contractor immediately after the cold milling process to allow the safe transition of traffic. These wedges shall be maintained in a satisfactory condition by the Contractor until the permanent asphalt is placed. All costs for placing and maintaining these wedges shall be absorbed in other pay items.
- 4. Overlay SR 3 with ¾" and variable Ultra-Thin Asphalt. This overlay will consist of overlaying the mainline highway, local roads, and asphalt pads. Prior to the overlay, pregrinding will be done at certain locations provided by the MDOT. Publicly maintained roads or streets shall be paved to the existing right of way. Privately owned entrances shall be paved a distance of 10 feet & variable from the edge of pavement. The ultra-thin asphalt lift will not require density tests by the MDOT but a rolling pattern (one roller in the paving train will be a rubber tired roller) using a nuclear gauge as a minimum testing device will be utilized by the Contractor. This testing will be done to ensure the asphalt is rolled to refusal. Any site grading at local roads, crossovers or drives will not be measured for separate payment but will be considered an absorbed item. Cross slopes shall be increased where practical within contract quantities in an effort to achieve a uniform cross slope of 2 %. The existing superelevation rate in horizontal curves is to be maintained as a minimum. 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.
- 5. All bridges decks within the project limits will be thoroughly cleaned. All debris including, but not limited to, sand, gravel and tree bark shall be removed from the deck and disposed. This work will be absorbed in other pay items bid and will be done prior to restriping the bridge decks.
- 6. Temporary striping shall conform to finished stripe specifications for alignment, reflectivity, straightness, and neatness. Temporary stripe shall be placed daily as needed for safe movement of traffic. All permanent pavement markings are to be hot thermoplastic. Edge lines will be placed so as to maintain a 12-foot lane width. Thermoplastic edge lines and centerline must be applied by using an atomization method. All other stripe may be placed using an extrusion head at the Contractor's option. On all concrete bridges, existing traffic stripe shall be removed and replaced with inverted profile thermoplastic or high performance cold plastic.
- 7. Remove and reconstruct guardrail as per standard drawings. The cost of removing all guardrail items including bridge end and terminal sections will be paid under 202-B -

Removal of Guard Rail. All debris in the vicinity of guardrails shall be removed and the gravel shoulder bladed and dressed to the appropriate slope.

- 8. Raise the existing shoulders to match the new pavement elevation by grading existing material and/or placing any needed granular material, all to be bladed and dressed to a finished slope of 4%. Any existing low shoulders or at any time there is a differential in excess of two inches (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. Raised pavement markers will be placed at 80-foot intervals in tangents and 40-foot intervals in curves and in urban limits along the centerline of roadway. Removal of existing raised pavement markers or rumble bars shall be done before the overlay and shall be considered an absorbed item of work.

| as | South Bound Lane | Station Length (ft) | 31+30 10 | 35+02 10 | 44+80 10 | 176+30 10 | | | |
|--------------------------|------------------|---------------------|----------|----------|----------|-----------|-------|--------|--------|
| Location of Failed Areas | nd Lane | Length | 10 | 10 | 10 | 10 | 18 | 13 | 10 |
| | North Bound Lane | Station | 25+84 | 31+30 | 32+02 | 08+7 | 22+86 | 167+30 | 176+30 |

| | | | Pre-Grind Locations | ocations | | | |
|----------|---------------------|--------------------|---------------------|----------|--------|-------------------|----------------|
| Lane 1 | Start Distance (ft) | Stop Distance (ft) | MRI (in/mi) | Start LM | End LM | Grind Length (ft) | Area (sq. ft.) |
| From BOP | 212.22 | 224.70 | 541.88 | 0.040 | 0.043 | 12 | 144 |
| | 724.31 | 725.81 | 501.68 | 0.137 | 0.137 | 1 | 12 |
| | 2111.58 | 2129.07 | 282.95 | 0.400 | 0.403 | 17 | 204 |
| | 4254.47 | 4267.46 | 679.52 | 908.0 | 0.808 | 13 | 156 |
| | 9690.91 | 9702.90 | 95'065 | 1.835 | 1.838 | 12 | 144 |
| | 45680.16 | 45683.24 | 515.75 | 8.652 | 8.652 | 8 | 36 |
| | | | | | | | |
| Lane 2 | Start Distance (ft) | Stop Distance (ft) | MRI (in/mi) | Start LM | End LM | Grind Length (ft) | Area (sq. ft.) |
| From EOP | 112.98 | 123.38 | 528.32 | 11.506 | 11.504 | 10 | 120 |
| | 27153.29 | 27156.12 | 518.25 | 6.384 | 6.384 | 8 | 36 |
| | 27159.62 | 27176.27 | 571.83 | 6.383 | 6.380 | 17 | 204 |
| | 43004.03 | 43026.43 | 700.20 | 3.382 | 3.378 | 22 | 264 |
| | 46476.66 | 46496.14 | 585.71 | 2.725 | 2.721 | 19 | 228 |
| | 52251.94 | 52259.10 | 532.02 | 1.631 | 1.629 | 7 | 84 |
| | 54051.57 | 54062.73 | 553.71 | 1.290 | 1.288 | 11 | 132 |

CODE: (IS)

SPECIAL PROVISION NO. 907-102-2

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.

<u>907-102.01--Prequalification of Bidders.</u> 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.

<u>907-102.02--Contents of Proposal Forms</u>. 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.

CODE: (SP)

SPECIAL PROVISION NO. 907-103-2

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.

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

<u>907-103.01.1--For Projects Constructed Without Federal Funds.</u> 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.

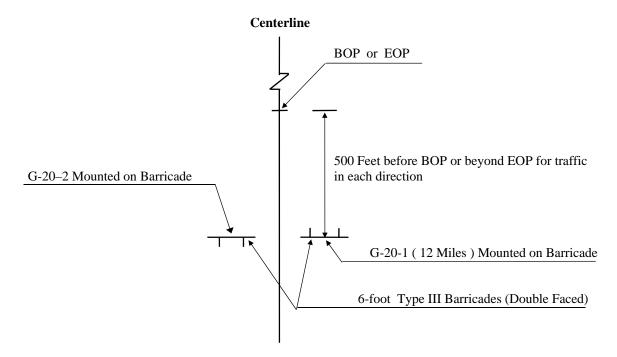
SUPPLEMENT TO SPECIAL PROVISION NO. 907-618-4

DATE: 3/27/2018

PROJECT: MP-3003-75-(005) / 306456301 -- Warren County

After the first paragraph of Subsection 907-618.01.2 on page 1, add the following.

Additional traffic control devices will be required as follows.

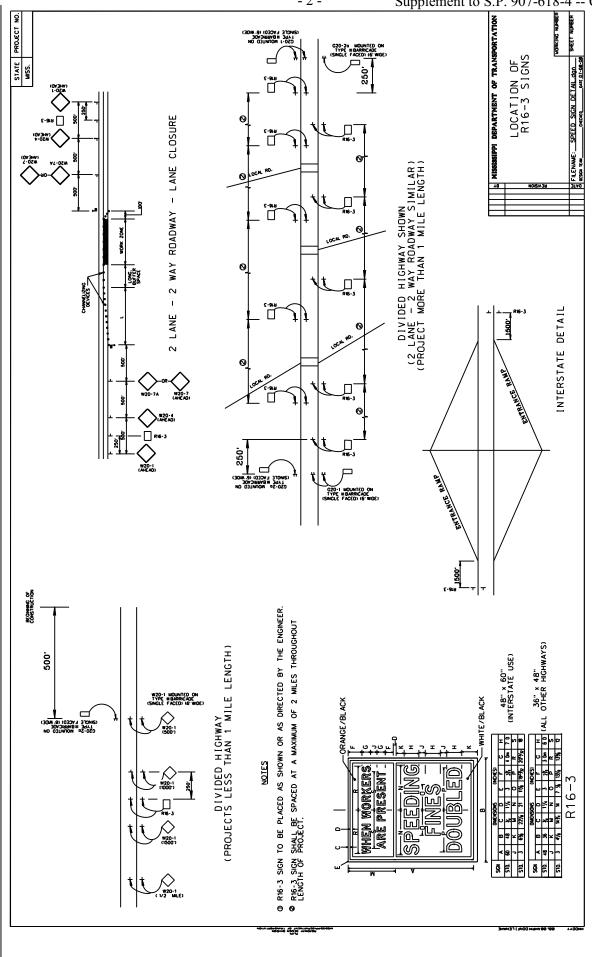


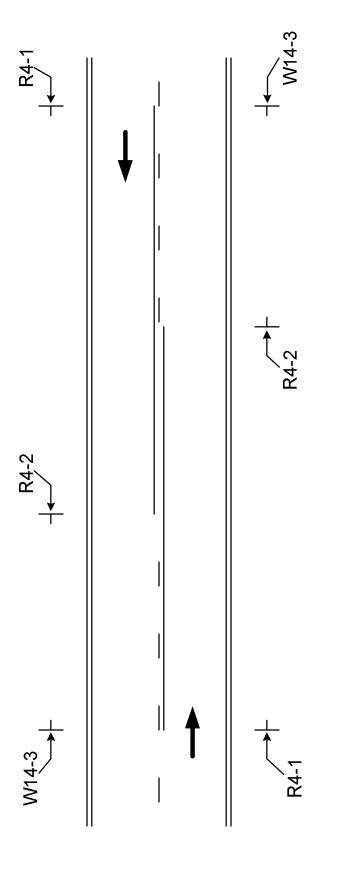
ADDITIONAL TRAFFIC CONTROL SIGNS REQUIRED:

- 6 W20-1 "AHEAD" signs required. One (1) W20-1 "AHEAD" sign is required at each local road or street entering the project.
- 100 R4-1 "DO NOT PASS" signs required.
- 21 R4-2 "PASS WITH CARE" signs required.
- 21 W14-3 "NO PASSING ZONE" signs required.

R4-1 "DO NOT PASS", R4-2 "PASS WITH CARE", and W14-3 "NO PASSING ZONE" signs are required in accordance with Subsection 618.03.3, this drawing, and as specified in the Manual on Uniform Traffic Control Devices.

All construction signs and barricades shown on this page shall be included in the bid price for Pay Item 618-A, Maintenance of Traffic. Fluorescent orange sheeting shall be used on all construction and traffic control signs except for R4-1 and R4-2 signs which shall be black legend and border on white background.





The W14-3, No Passing Zone sign, shall be placed on the left side of the road at the beginning of each no passing zone.

The R4-1, Do Not Pass signs, shall be placed on the right side of the road at the beginning of the no passing zone. Additional R4-1 signs shall be placed right and left in increments of 750 to 1000 feet throughout the length of the no passing zone.

The R4-2, Pass With Care sign, shall be placed on the right side of the road at the end of the no passing zone.

The R4-1, R4-2 and W14-3 signs are to be used when standard pavement markings are not in place. The signs may also be used to emphasize pavement markings.

CODE: (SP)

SPECIAL PROVISION NO. 907-618-4

DATE: 02/01/2018

SUBJECT: Additional Signing Requirements

Section 618, Maintenance of Traffic and Traffic Control Plan, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

<u>907-618.01.2--Traffic Control Plan</u>. At the end of Subsection 618.01.2 on page 441, add the following:

For compliance with the traffic control plan, the Contractor will be required to install and maintain traffic control devices at various locations throughout the project. Payment for these devices will be included in the price bid for pay item no. 618-A, Maintenance of Traffic per lump sum.

CODE: (SP)

SPECIAL PROVISION NO. 907-619-6

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.

<u>907-619.02.16--Temporary Portable Rumble Strips.</u> 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.

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

<u>907-619.03.16--Temporary Portable Rumble Strips.</u> 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.

<u>907-619.04--Method of Measurement.</u> 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.

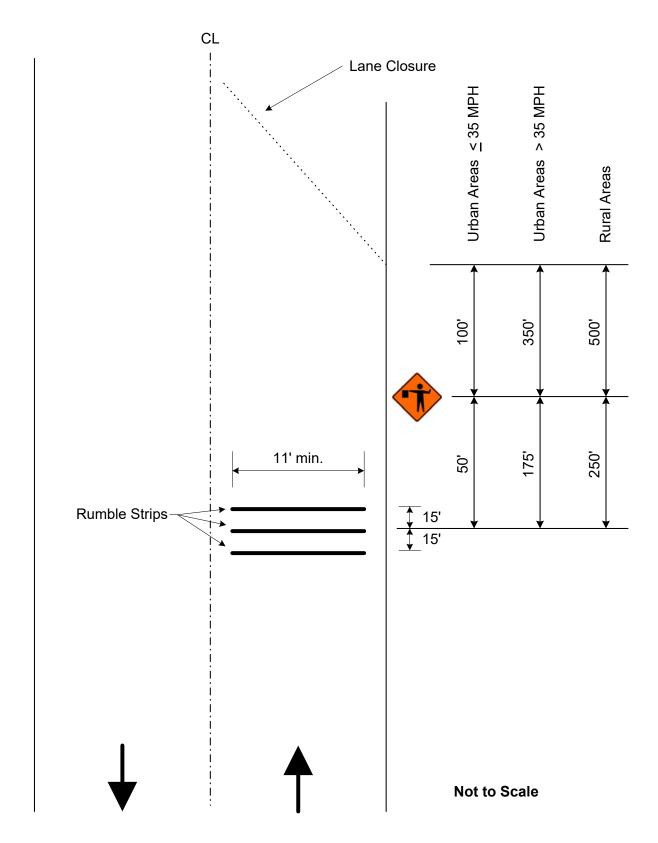
<u>907-619.05--Basis of Payment.</u> After the fifth paragraph of Subsection 619.05 on page 478, add the following.

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

CODE: (SP)

SPECIAL PROVISION NO. 907-624-1

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.

<u>907-624.01--Description.</u> 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.

<u>907-624.02.1--General.</u> 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 140°F. 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.

<u>907-624.02.2--Inverted Profile Thermoplastic Material.</u> 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 |

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

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

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

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

907-624.02.2.6--Flow Characteristics.

<u>907-624.02.2.6.1--Flowability</u>. After heating the thermoplastic material for four (4) hours ± 5 minutes at $425 \pm 3^{\circ}$ F 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 190°F 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.

<u>907-624.02.2.7--Reflectivity.</u> 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.

<u>907-624.02.2.8--Wet Reflectivity.</u> 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.

<u>907-624.02.2.9--Inverted Profile</u>. 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.

<u>907-624.02.3.1--General.</u> 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 $68 \pm 5^{\circ}F$. 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 $20^{\circ}F$ to $150^{\circ}F$. 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.

<u>907-624.02.3.2--Binder.</u> 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.

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

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

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

<u>907-624.02.3.6--Softening Point.</u> 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.

<u>907-624.02.3.7--Tensile Bond Strength.</u> After heating the marking compound for 4 hours ± 5 minutes at $375 \pm 3^{\circ}F$, 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 $375 \pm 3^{\circ}F$. The test shall be conducted at room temperature.

<u>907-624.02.3.8--Impact Resistance.</u> 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.

<u>907-624.02.3.9--Identification</u>. 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.

<u>907-624.02.3.10--Packaging.</u> 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.

<u>907-624.02.3.11--Storage Life.</u> 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.

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

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

<u>907-624.02.4.1--Class G Glass Beads.</u> 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:

- <u>Color and Clarity</u>: 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.

<u>907-624.02.4.2--Class H Glass Beads.</u> 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 | <u>% Passing</u> |
|----------------------|------------------|
| 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 ½ 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.

<u>907-624.03.2--Cleaning of Pavement Surface.</u> 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.

<u>907-624.03.3--Application Over Existing Striping.</u> 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.

<u>907-624.03.4--Surface Conditions.</u> When placing inverted profile thermoplastic pavement markings, no striping shall be permitted when the pavement surface temperature is less than 60°F. 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.

<u>907-624.03.5--Application.</u> 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 400°F and 430°F. 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 70°F, 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.

<u>907-624.03.6--Inverted Profile Thermoplastic Traffic Stripe, High Contrast.</u> 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.

<u>907-624.03.7--Warranty.</u> 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: | \mathbf{W} | hite | Yϵ | ellow |
|--------------------------------------|--------------|------------|------------|-------|
| | Dry | <u>Wet</u> | <u>Dry</u> | 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.

<u>907-624.04--Method of Measurement.</u> 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.

<u>907-624.05--Basis of Payment.</u> 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:

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

^{*} High Contrast may be specified

SECTION 905 - PROPOSAL

| | 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.

- 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 <u>five percent (5%) of total bid</u> 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.

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 |
| | BYSignature |
| | 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 names, titles and business addresses of the executives are as | State of and the s follows: |
| President | Address |
| Secretary | Address |
| Treasurer | Address |

Revised 1/2016

The following is my (our) itemized proposal.

Overlay approximately 12 miles of SR 3 from US 61 to the Yazoo County Line, known as State Project No. MP-3003-75(005) / 306456301 in Warren County.

| Line no. | Item Code | Adj Code | Quantity | Units Roadway I | Description[Fixed Unit Price] |
|----------|--------------|----------|----------|--------------------|--|
| 0010 | 202-B009 | | 150 | Square Yard | Removal of Asphalt Pavement, Failed Areas |
| 0020 | 202-B076 | | 150 | Square Yard | Removal of Concrete Pavement, Failed Areas |
| 0030 | 202-B136 | | 1,384 | Linear Feet | Removal of Guard Rail |
| 0040 | 202-B240 | | 1,184 | Linear Feet | Removal of Traffic Stripe |
| 0050 | 203-G001 | (E) | 150 | Cubic Yard | Excess Excavation, FM, AH |
| 0060 | 304-B004 | (GT) | 7,000 | Ton | Granular Material, Class 5, Group D |
| 0070 | 406-A002 | | 8,275 | Square Yard | Cold Milling of Bituminous Pavement, All Depths |
| 0080 | 407-A001 | (A2) | 14,500 | Gallon | Asphalt for Tack Coat |
| 0090 | 411-A001 | (BA1) | 11,000 | Ton | Ultra Thin Asphalt Pavement |
| 0100 | 412-A001 | | 1,764 | Square Feet | Pre-Grinding (\$3.25) |
| 0110 | 606-B001 | | 1,150 | Linear Feet | Guard Rail, Class A, Type 1 |
| 0120 | 606-D001 | | 13 | Each | Guard Rail, Bridge End Section |
| 0130 | 606-E001 | | 13 | Each | Guard Rail, Terminal End Section |
| 0140 | 618-A001 | | 1 | Lump Sum | Maintenance of Traffic |
| 0150 | 618-B001 | | 1 | Square Feet | Additional Construction Signs (\$10.00) |
| 0160 | 619-A1004 | | 22 | Mile | Temporary Traffic Stripe, Continuous White, Paint |
| 0170 | 619-A2004 | | 8 | Mile | Temporary Traffic Stripe, Continuous Yellow, Paint |
| 0180 | 619-A4004 | | 9 | Mile | Temporary Traffic Stripe, Skip Yellow, Paint |
| 0190 | 619-A5002 | | 4,500 | Linear Feet | Temporary Traffic Stripe, Detail, Paint |
| 0200 | 619-A6004 | | 325 | Linear Feet | Temporary Traffic Stripe, Legend, Paint |
| 0210 | 620-A001 | | 1 | Lump Sum | Mobilization |
| 0220 | 626-B002 | | 22 | Mile | 6" Thermoplastic Double Drop Traffic Stripe, Continuous White |
| 0230 | 626-D001 | | 9 | Mile | 6" Thermoplastic Double Drop Traffic Stripe, Skip Yellow |
| 0240 | 626-E001 | | 8 | Mile | 6" Thermoplastic Double Drop Traffic Stripe, Continuous Yellow |
| 0250 | 626-G004 | | 4,209 | Linear Feet | Thermoplastic Double Drop Detail Stripe, White |
| 0260 | 626-G005 | | 4,898 | Linear Feet | Thermoplastic Double Drop Detail Stripe, Yellow |
| 0270 | 626-H001 | | 38 | Square Feet | Thermoplastic Double Drop Legend, White |
| 0280 | 626-H002 | | 652 | Linear Feet | Thermoplastic Double Drop Legend, White |
| 0290 | 627-J001 | | 185 | Each | Two-Way Clear Reflective High Performance Raised Markers |
| 0300 | 627-K001 | | 78 | Each | Red-Clear Reflective High Performance Raised Markers |
| 0310 | 627-L001 | | 1,132 | Each | Two-Way Yellow Reflective High Performance Raised Markers |
| 0320 | 630-F006 | | 80 | Each | Delineators, Guard Rail, White |
| 0330 | 907-619-B001 | | 66 | Linear Feet | Temporary Portable Rumble Strips |
| 02.40 | 204 0001 | (CV) | | ERNATE GROUP | |
| 0340 | 304-G001 | (GY) | 25 | Cubic Yard | Size 3/4" and Down Crushed Stone Base, AEA |

| Line no. | Item Code | Adj Code | Quantity ALTI | Units ERNATE GROUP | Description[Fixed Unit Price] AA NUMBER 2 |
|----------|--------------|----------|------------------|-----------------------|--|
| 0350 | 304-G002 | (GY) | 25 | Cubic Yard | Size 610 Crushed Stone Base, AEA |
| | | | ALTI | ERNATE GROUP | AA NUMBER 3 |
| 0360 | 304-G003 | (GY) | 25 | Cubic Yard | Size 825B Crushed Stone Base, AEA |
| | | | ALTI | ERNATE GROUP | BB NUMBER 1 |
| 0370 | 907-624-B002 | | 1,054 | Linear Feet | 6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White |
| 0380 | 907-624-C001 | | 130 | Linear Feet | 6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow |
| | | | ALTI | ERNATE GROUP | BB NUMBER 2 |
| 0390 | 628-H001 | | 1,054 | Linear Feet | 6" High Performance Cold Plastic Traffic Stripe, Continuous White |
| 0400 | 628-I002 | | 130 | Linear Feet | 6" High Performance Cold Plastic Traffic Stripe, Skip Yellow |

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

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.

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COMBINATION BID PROPOSAL

* of Subsection 102.11 on the following contracts: This proposal is tendered as one part of a Combination Bid Proposal utilizing option * Option to be shown as either (a), (b), or (c).

| County | | | | | |
|-------------|----|----|----|----|-----|
| Project No. | 6. | 7. | 8. | 9. | 10. |
| County | | | | | |
| Project No. | 1. | 2. | 3. | 4. | 5. |

- (a) If Combination A has been selected, your Combination Bid is complete.
- (b) If Combination B has been selected, then complete the following page.

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

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

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

(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 \$_

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

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 <u>DOES NOT</u> co | onstitute <u>APPROVAL</u> of the subcontracts. |
|---|---|
| | |
| (Individual or Firm) | (Address) |
| NOTE: Failure to complete the above <u>DOES NOT</u> prosubcontracts, if any, equal to or in excess of accordance with regulations promulgated and Contractors on September 8, 2011. | fifty thousand dollars (\$50,000.00) will be in |
| Contractor | |

CERTIFICATION

| I, |
|--|
| (Name of person signing bid) |
| individually, and in my capacity as |
| (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-3003-75(005) / 306456301000 |
| |
| in Warren 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) |

SECTION 902

CONTRACT FOR MP-3003-75(005) / 306456301000

LOCATED IN THE COUNTY(IES) OF Warren

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 sign | natures this the day of | |
|--|--|----|
| Contractor(s) | | |
| By | MISSISSIPPI TRANSPORTATION COMMISSION | |
| Title | By | |
| Signed and sealed in the presence of: (names and addresses of witnesses) | Executive Director | |
| | Secretary to the Commission | |
| | Transportation Commission in session on the day ok No, Page No | of |
| Revised 8/06/2003 | | |

SECTION 903 PERFORMANCE AND PAYMENT BOND

CONTRACT BOND FOR: MP-3003-75(005) / 306456301000

LOCATED IN THE COUNTY(IES) OF: Warren

STATE OF MISSISSIPPI, COUNTY OF HINDS

| (Contractor) |
|---|
| (Communication) |
| |
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| |
| nereof, as surety, effective as of the contract date |
| in the sum of |
| |
| ed States of America, to be paid to it for which |
| inistrators, successors, or assigns jointly and |
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| |
| sportation Commission, bearing the date of |
| |
| exed, for the construction of certain projects(s) in |
| ith the Contract Documents therefor, on file in the |
| sissippi. |
| |
| rell and truly observe, do keep and perform all and is in said contract, contained on his (their) part to be and in the manner and form and furnish all of the ce with the terms of said contract which said plans, it of said contract and shall maintain the said work in Subsection 109.11 of the approved specifications any loss or damage arising out of or occasioned by other loss or damage whatsoever, on the part of said formance of said work or in any manner connected tuted by the State at the instance of the Mississippi in such cases, for double any amount in money or dof, by reason of wrongful or criminal act, if any, of a pay the said agents, servants and employees and all the including premiums incurred, for Surety Bonds, the additional obligation that such Contractor shall ons, damages, |
| |

Revised 09/02/2014

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 |



BID BOND

| KNOW ALL MEN BY THESE PI | RESENTS, that we | | | | |
|---|---|--|---|---|--|
| | , <u></u> | | Co | ntractor | |
| | | | | Address | |
| | | | City, | State ZIP | |
| As principal, hereinafter called the | Principal, and | | <u> </u> | urety | |
| a corporation duly organized under | | | | | |
| as Surety, hereinafter called the Su | rrety, are held and firmly b | ound unto | State of M | Iississippi, Jacks | on, Mississippi |
| As Obligee, hereinafter called Obl | igee, in the sum of Five P | er Cent (5 | %) of Amou | ınt Bid | |
| | | | Dollars(\$ | |) |
| for the payment of which sum wi executors, administrators, successor | | | | | urselves, our heirs, |
| NOW THEREFORE, the condition said Principal will, within the time performance of the terms and cond will pay unto the Obligee the diffe which the Obligee legally contracts but in no event shall liability hereun | required, enter into a form litions of the contract, then erence in money between the s with another party to per- | nal contract this obligate he amount of form the we | and give a getion to be voor the bid of | good and sufficien id; otherwise the I the said Principal | t bond to secure the Principal and Surety and the amount for |
| Signed and sealed this | day of | | , 20 | _ | |
| | | - | | (Principal) | (Seal) |
| | | - | Ву: | (Name) | |
| (Witness) | | | | (Name) | (Title) |
| | | | | (Surety) | (Seal) |
| | |] | Ву: | | |
| (Witness) | | | | (Attorney-in-Fa | ect) |
| | | | | (MS Agent) | |
| | | | Mio | ssissinni Insurance | ID Number |

| Rev. 1 / 2015 | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---------|--------|-----------|-------|--------|--------|--------------|-------------|----------------|-----------|-----------|-------|------|--------|-----------|---------|-----------------|
| WORK PHASE DESCRIPTION | LINE NUMBERS | JAN FEB | MAR AP | APRIL MAY | JONE | JULY | AUGUST | SEPTEMBER OC | OCTOBER NOV | OV DEC JAN FEB | MAR | APRIL MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOV DEC |
| Miscellaneous | 30-40; 110-210; 320-330 | | | | | 0 | | 10 | 16 | | | | | | | | | |
| Paving | 10-20; 50-100; 340-360 | | | | | 2 | | 25 | | | | | | | | | | |
| Pavement Marking | 220-310; 370-400 | | | | | | | 52 57 | 25 | | | | | | | | | |
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| LET: | F: 5/22/2018 | | | | | | | | | | | | | | | | | |
| NOA: | v. 6/12/2018 | | | | | | | | | | | | | | | | | |
| NTP/BCT: | F: 7/12/2018 | | | | | | | | | | | | | | | | | |
| W.D.: | .: 57 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | HLNOW | JAN FEB | | APRIL | JAN O | , JOLY | AUGUST | SEPTEMBER OC | OCTOBER NO | NOV DECJAN FEB | MAR APRIL | RIL | J. O. | YING | AUGUST | SEPTEMBER | OCTOBER | NOV DEC WORKING |
| ANTICIDATED | THEORY CITY ON A CHANGE CONTRACT CONTRACT | 4 | | ļ | I | | Ť | | _ | | | | | | | | | |

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.