MDOT Use Only
Checked _____
Loaded _____
Keyed _____

17 -

SM No. CMP6063200171

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

17
Overlay approximately 9 miles on SR 63 from Sally Parker Rd. to US 98, known as State Project No. MP-6063-20(017) / 307910301 in George County.

Project Completion: Flexible

(STATE DELEGATED)

NOTICE

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

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

SECTION 900

OF THE CURRENT 2017 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

JACKSON, MISSISSIPPI

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
TABLE OF CONTENTS

PROJECT: MP-6063-20(017)/307910301 - George

PROJECT: MP-6063-20(017)/307910301 - George

Section 905 - Proposal, Proposal Bid Items, Combination Bid Proposal
State Board of Contractors Requirement
State Certification Regarding Non-Collusion, Debarment and Suspensions
Section 902 - Contract Form
Section 903 - Contract Bond Forms

Progress Schedule

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

03/30/2022 02:21 PM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 901 - ADVERTISEMENT

Electronic bids will be received by the Mississippi Transportation Commission at 10:00 o'clock A.M., Tuesday, April 26, 2022, from the Bid Express Service and shortly thereafter publicly read on the Sixth Floor for:

Overlay approximately 9 miles on SR 63 from Sally Parker Rd. to US 98, known as State Project No. MP-6063-20(017) / 307910301 in George 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.

BRAD WHITE
EXECUTIVE DIRECTOR

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO NOTICE TO BIDDERS NO. 1

DATE: **06/08/2021**

SUBJECT: **Governing Specifications**

Change the web address at the end of the first paragraph to the following.

https://shop.mdot.ms.gov/default.aspx?StoreIndex=1

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 03/01/2017

SUBJECT: Governing Specifications

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Transportation Commission is made a part hereof fully and completely as if it were attached hereto, except where superseded by special provisions, or amended by revisions of the Specifications contained within this proposal.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

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 01/17/2017

SUBJECT: Final Clean-Up

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

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 03/01/2017

SUBJECT: Federal Bridge Formula

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

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

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

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

or

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

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

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

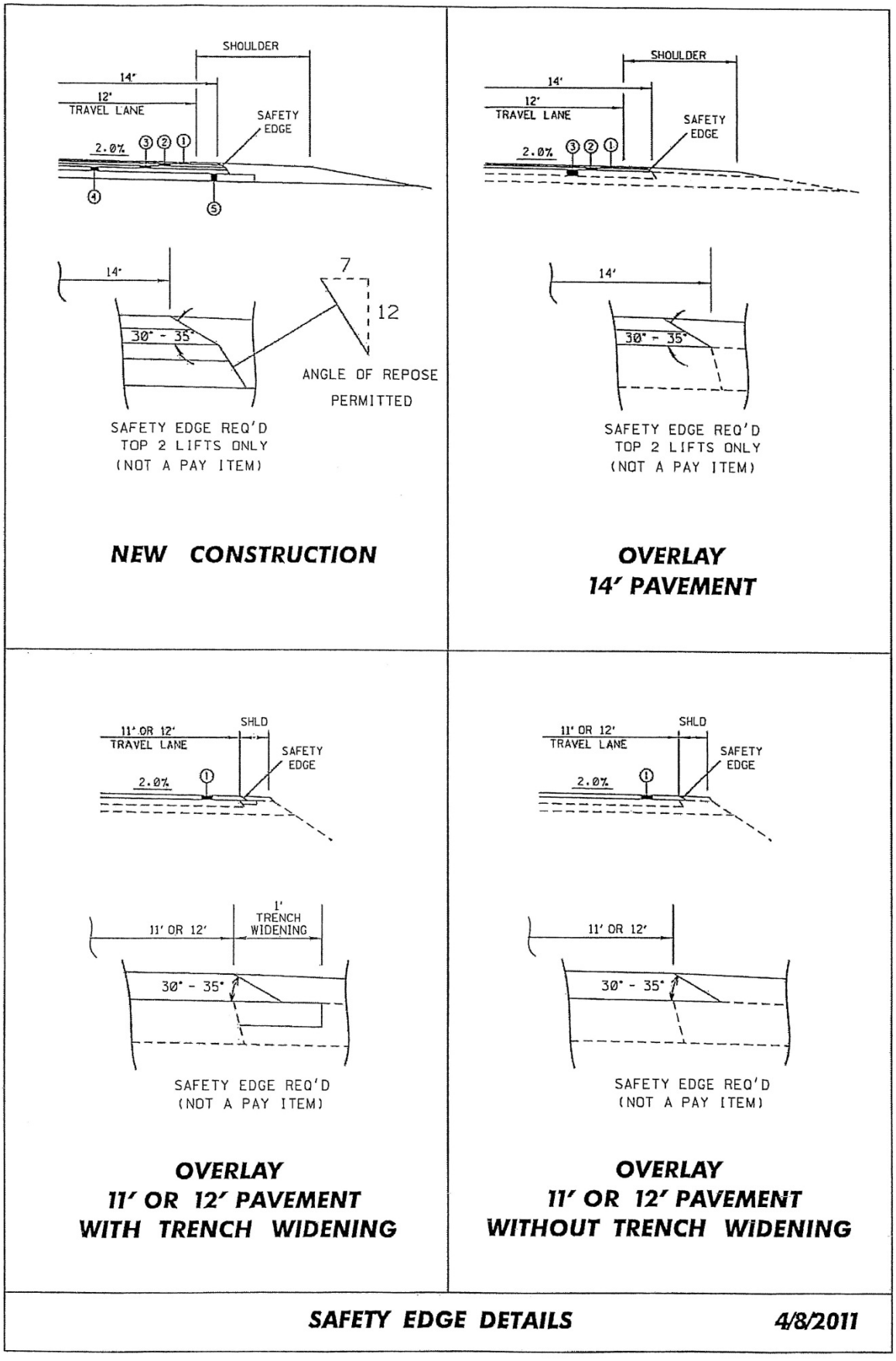
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 03/01/2017

SUBJECT: Safety Edge

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


SHOULDER
14'
12'
TRAVEL LANE
SAFETY EDGE
2.0%
③ ② ①
④
⑤
14'
7
12
30° - 35°
ANGLE OF REPOSE PERMITTED
SAFETY EDGE REQ'D TOP 2 LIFTS ONLY (NOT A PAY ITEM)
NEW CONSTRUCTION
SHOULDER
14'
12'
TRAVEL LANE
SAFETY EDGE
2.0%
③ ② ①
14'
30° - 35°
SAFETY EDGE REQ'D TOP 2 LIFTS ONLY (NOT A PAY ITEM)
OVERLAY 14' PAVEMENT
11' OR 12'
TRAVEL LANE
SHLD
SAFETY EDGE
2.0%
①
1' TRENCH WIDENING
11' OR 12'
30° - 35°
SAFETY EDGE REQ'D (NOT A PAY ITEM)
OVERLAY 11' OR 12' PAVEMENT WITH TRENCH WIDENING
11' OR 12'
TRAVEL LANE
SHLD
SAFETY EDGE
2.0%
①
11' OR 12'
30° - 35°
SAFETY EDGE REQ'D (NOT A PAY ITEM)
OVERLAY 11' OR 12' PAVEMENT WITHOUT TRENCH WIDENING
SAFETY EDGE DETAILS
4/8/2011

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 04/18/2017

SUBJECT: Tack Coat

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 07/25/2017

SUBJECT: Reduced Speed Limit Signs

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 10/10/2017

SUBJECT: Mississippi Agent or Qualified Nonresident Agent

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 11/28/2017

SUBJECT: Errata and Modifications to the 2017 Standard Specifications

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1225 **CODE: (SP)**

DATE: 11/13/2018

SUBJECT: Early Notice to Proceed

Bidders are advised that if an early notice to proceed is allowed by the Department and the Contractor experiences problems or delays between the early notice to proceed date and the original notice to proceed date, this shall not be justification for any monetary compensation or an extension of contract time.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1226 **CODE: (IS)**

DATE: 11/16/2018

SUBJECT: Material Storage Under Bridges

Bidders are advised that Subsection 106.08 of the Standard Specifications allows the Contractor to store materials and equipment on portions of the right-of-way. However, the Contractor will not be allowed to store or stockpile materials under bridges without written permission from the Project Engineer. The Contractor shall submit a detailed request of all proposed materials to be stored under bridges to the Engineer a minimum of 14 calendar days prior to anticipated storage. This detail shall include, but not limited to, bridge location, material type, material quantity, and duration of storage. The Project Engineer and any other needed Division will review this information and determine whether to grant approval. The Contractor shall not store any material under any bridge without written approval from the Project Engineer.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1241 **CODE: (IS)**

DATE: 11/27/2018

SUBJECT: Fuel and Material Adjustments

Bidder's attention is brought to the last paragraph of Subsection 109.07 of the Standard Specifications which states that no fuel or material adjustment will be made after the completion of contract time. Any fuels consumed or materials incorporated into the work during the monthly estimate period falling wholly after the expiration of contract time will not be subject a fuel or material adjustment.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1963 **CODE: (SP)**

DATE: 9/23/2019

SUBJECT: Guardrail Pads

Bidders are hereby advised that prior to construction of the guardrail pads, the Contractor shall coordinate with the guardrail Subcontractor to determine the guardrail pad dimensions necessary to meet MASH compliance.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2206 **CODE: (IS)**

DATE: 01/14/2020

SUBJECT: MASH Compliant Devices

Bidders are hereby advised that compliance associated with the requirements of meeting either the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) for installations of certain traffic control devices and permanent safety hardware devices (guardrails, guardrail terminals, permanent portable barriers, cast-in-place barriers, all other permanent longitudinal barriers, crash cushions, cable barriers, cable barrier terminals, bridge rails, bridge rail transitions, all other terminals, sign supports, and all other breakaway hardware) as listed throughout the Standard Specifications and/or the Standard Drawings, or both, is now replaced with the requirements of meeting the 2016 version of MASH after December 31, 2019. This change applies to new permanent installations and to full replacements of existing installations.

At the preconstruction conference or prior to starting any work on the project, the Contractor shall submit a letter stating that the traffic control devices and permanent safety hardware devices as outlined within the paragraph above that are to be used on the project are certified to meet MASH 2016.

When a MASH 2016-compliant device does not exist for the new permanent installations and/or full replacement installations of permanent safety hardware devices, as listed above, a MASH 2009-compliant or a NCHRP 350-compliant device may be proposed by the Contractor for the project. A written request for such instances must be submitted by the Contractor either at the preconstruction conference or prior to starting any work on the project. The Contractor shall submit the following items to the Project Engineer: (1) a detailed list of the proposed devices and locations thereof; and (2) certification letters indicating that the proposed devices are compliant with either MASH 2009 or NCHRP 350.

When a MASH 2016-compliant device does not exist for the temporary work zone traffic control devices (Category 1, Category 2, and Category 3 devices) , a MASH 2009-compliant or a NCHRP 350-compliant device may be proposed by the Contractor for the project. Temporary work zone traffic control devices (Category 1, Category 2, and Category 3 devices) that are MASH 2009-compliant or NCHRP 350–compliant that have been in use prior to December 31, 2019, and that have a remaining service life may be proposed for use throughout their normal service life on the project by the Contractor. For either of these scenarios for temporary work zone traffic control devices, a written request must be submitted by the Contractor either at the preconstruction conference or prior to starting any work on the project. The Contractor shall submit the following items to the Project Engineer: (1) a detailed list of the proposed devices and locations thereof; and (2) certification letters indicating that the proposed devices are compliant with either MASH 2009 or NCHRP 350.

Work will only be allowed to proceed after the Department has granted written concurrence(s) with the proposed request(s) as listed above.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2273 **CODE: (SP)**

DATE: 02/12/2020

SUBJECT: Mississippi Special Fuel Tax Law

Bidder's attention is brought to the second paragraph of Subsection 107.02 of the Standard Specifications which states that all Contractors and Subcontractors must comply with all requirements contained in the Mississippi Special Fuel Tax Law, Section 27-55-501, *et seq*. Attached are two Fact Sheets provided by the Mississippi Department of Revenue (MDOR) with additional information.

DEPARTMENT OF REVENUE
STATE OF MISSISSIPPI

Gasoline and Dyed Diesel Used for Non-Highway Purposes

Mississippi provides a reduced rate for gasoline and dyed diesel used for non-highway purposes. The reduced rates are 6.44 cents per gallon and 5.75 cents per gallon of gasoline or dyed diesel. These fuels are generally taxed at 18 cents per gallon if for on road use.

Gasoline Used for Non-Highway Purposes

You may be entitled to a refund of 11.56 cents per gallon (making this an equivalent to a tax rate of 6.44 cents per gallon) if you desire to purchase gasoline to be used off road. The gasoline must be used for agricultural, maritime, industrial, manufacturing, domestic or non-highway purposes only.

Examples of non-highway include gasoline used in boats, golf carts, machinery used for manufacturing or farm equipment used exclusively in plowing, planting or harvesting farm products.

Refund Gasoline User

The refund is based on the amount of gallons used. Before a refund is issued, you are required to…

1. Obtain a refund gasoline user's permit and a certificate for refund booklet from the Department of Revenue;
2. Have a storage tank marked "REFUND GASOLINE"; and,
3. Purchase the gasoline from someone who holds a refund gasoline dealer's permit.

No refund will be allowed for gasoline used in motor vehicles owned or operated by a government entity or used in Mississippi government contracts.

Refund Gasoline Dealer

You must obtain a refund gasoline dealer's permit from the Department of Revenue before selling refund gasoline. At no time should the gasoline be delivered to a tank that is not properly marked. The gasoline must be dyed a distinctive mahogany color at the time of delivery.

The Department of Revenue may waive the dye requirement if the dye may cause damage to the equipment. The refund gasoline user is required to obtain the waiver from the Department of Revenue.

Dyed Diesel Used for Non-Highway Purposes

Unlike gasoline, you are not required to apply for a refund if you desire to purchase dyed diesel to be used off road. Mississippi provides a reduced rate of 5.75 cents per gallon on dyed diesel used off road. Diesel used on road is subjected to 18 cents per gallon. Dyed diesel used in motor vehicles owned or operated by a government entity or used in Mississippi government contracts will be subjected to 18 cents per gallon.

Dyed Diesel Used on the Highway

Any person who purchases, receives, acquires or uses dyed diesel for highway use will be liable to pay 18 cents per gallon and subject to a penalty in the amount of $1000.

Identifying Dyed Diesel

Storage facilities for dyed diesel must be plainly marked "NONHIGHWAY DIESEL FUEL" or "NONHIGHWAY KEROSENE". Retailers are also required to mark all pumps or dispensing equipment.

Petroleum Tax Bureau
P. O. Box 1033
Jackson, MS 39215-1033
Phone: (601) 923-7150

DEPARTMENT OF REVENUE
STATE OF MISSISSIPPI

Special Fuel Used on Government Contracts

State and Local Government Contracts

Special fuel purchased, acquired or used in performing contracts with the State of Mississippi, counties, municipalities or any political subdivision is taxed at a rate of 18 cents per gallon. Special fuel includes but is not limited to the following:

- Dyed diesel fuel;
- Kerosene;
- Undyed diesel fuel; and,
- Fuel oil.

State and local government contracts include construction, reconstruction and maintenance or repairs of projects such as roads, bridges, water systems, sewer systems, buildings, drainage canals and recreational facilities. The Department of Revenue may require contractors to remit the excise tax directly to the state in lieu of paying the tax to a distributor.

Special Fuel Direct Pay Permit

Contractors that remit the excise tax to the state will be issued a Special Fuel Direct Pay Permit. This permit relieves the distributor from collecting the tax and requires the contractor to file a monthly special fuel return. The distributor should include the contractor's permit number on all invoices that are related to tax-free sales.

The contractor is required to furnish a surety or cash bond guaranteeing the payment of the excise tax prior to receiving the Special Fuel Direct Pay Permit. The Department of Revenue may accept a contractors tax bond if the bond covers the excise tax levied on special fuel.

Special Fuel Distributors

If the contractor does not have a Special Fuel Direct Pay Permit, distributors are required to collect the 18 cents excise tax and remit the tax to the Department of Revenue. The additional 12.25 cents levied on special fuel (excluding undyed diesel) should be reported on schedules 5F and 5G of the special fuel return.

Environmental Protection Fee

Special fuel distributors are required to collect the environmental protection fee even if the contractor has a Special Fuel Direct Pay Permit. The fee is levied at 4/10^{ths} of a cent per gallon. The fee is suspended or reinstated when the trust fund has exceeded or fallen below the obligatory balance.

Penalties

Any person who knowingly and willfully purchases untaxed fuel for use in equipment utilized on a road or highway construction site in this state is guilty of a misdemeanor and, upon conviction, shall be fined not less than $1,000 or more than $100,000, or imprisoned in the county jail for not more than one year, or both.

Petroleum Tax Bureau
P. O. Box 1033
Jackson, MS 39215-1033
Phone: (601) 923-7150

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904- NOTICE TO BIDDERS NO. 2397 **CODE: (SP)**

DATE: 03/24/2020

SUBJECT: Smoothness Tolerances for Ultra-Thin Asphalt Pavement

Bidders are hereby advised that the smoothness tolerances for ultra-thin asphalt pavement on this project shall meet the requirements of a Category C project in accordance with Subsection 403.03.2.1. There will be no final surface requirements or corrective action based for the short continuous interval. Bidders are responsible for the collection of a preliminary smoothness profile prior to any work being performed.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2954 **CODE: (IS)**

DATE: **12/01/2020**

SUBJECT: **Reflective Sheeting for Signs**

Bidders are hereby advised that the retroreflective sign sheeting used for signs on this project shall be as listed below and shall meet the requirements of Subsection 721.06.

Temporary Construction Signs

Temporary traffic control (orange) sign sheeting shall be a minimum Type IX Fluorescent Orange sheeting as shown in Special Provision 907-721.

Permanent Signs

Permanent signs, except signs on traffic signal poles/mast arms, shall be as follows:

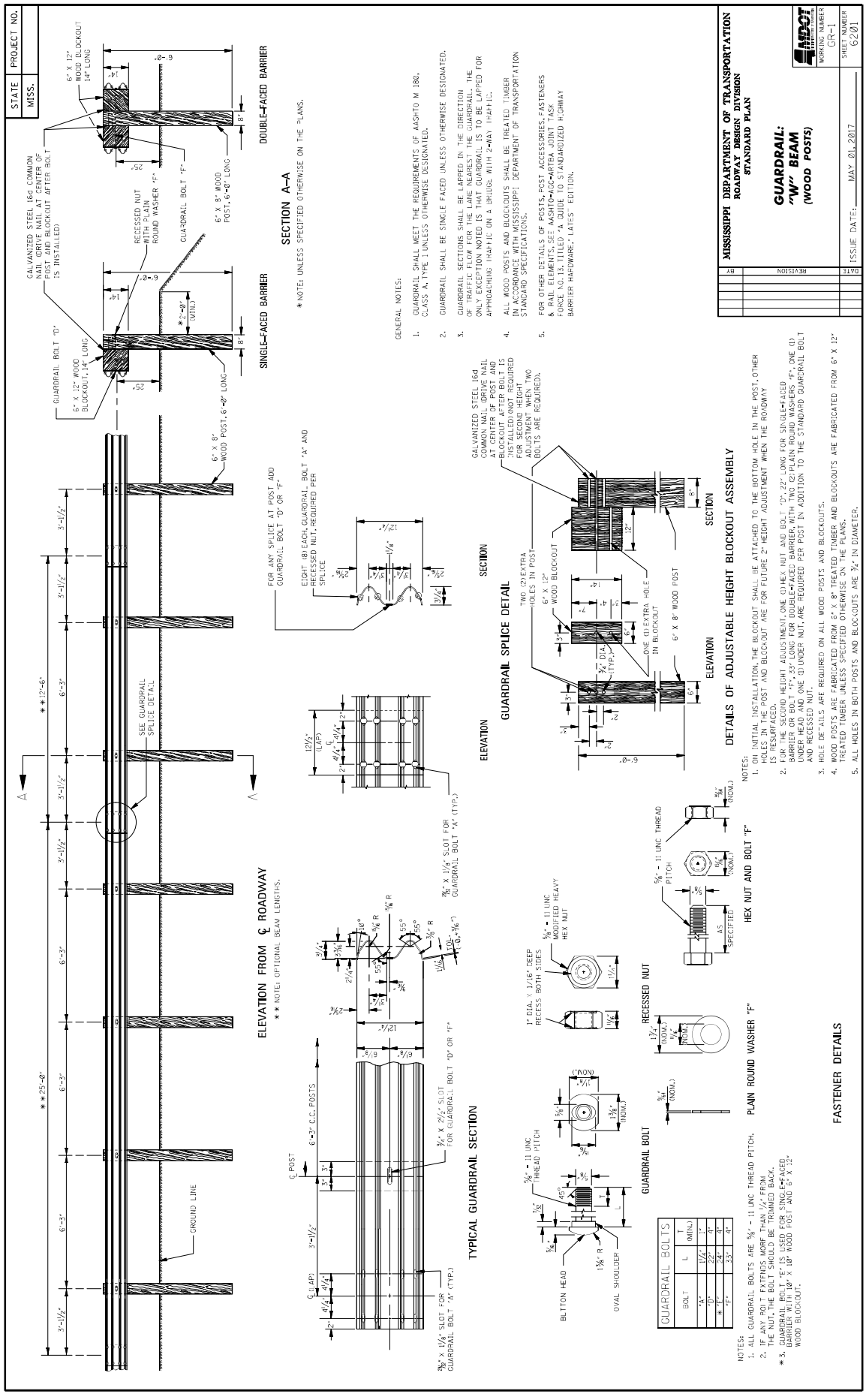
- Brown background sheeting on guide signs shall be a minimum Type VIII sheeting,
- Green and blue background sheeting on guide signs shall be a minimum Type IX sheeting, and
- All white, yellow, red, fluorescent yellow, and fluorescent yellow/green sheeting shall be Type XI sheeting.

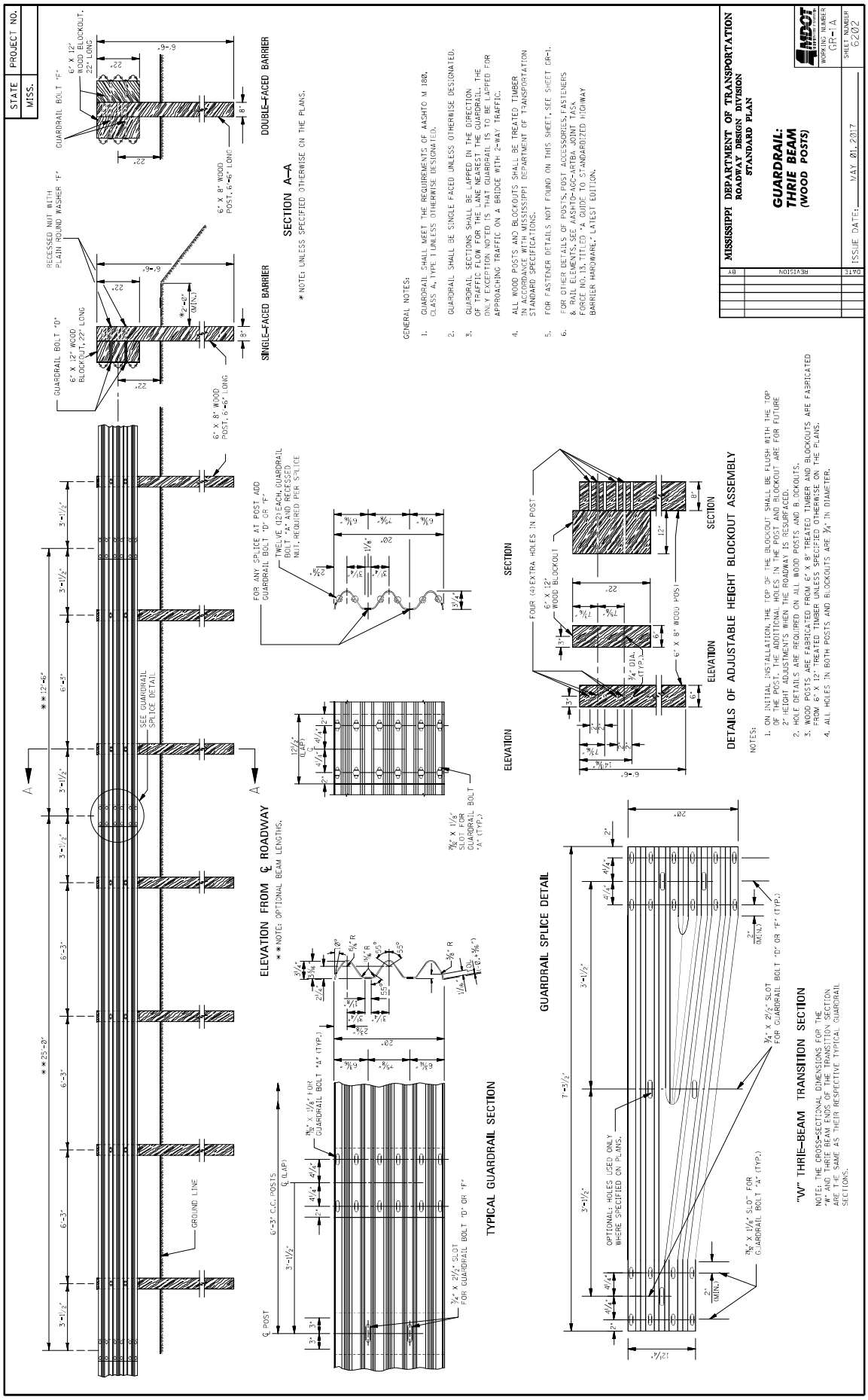
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

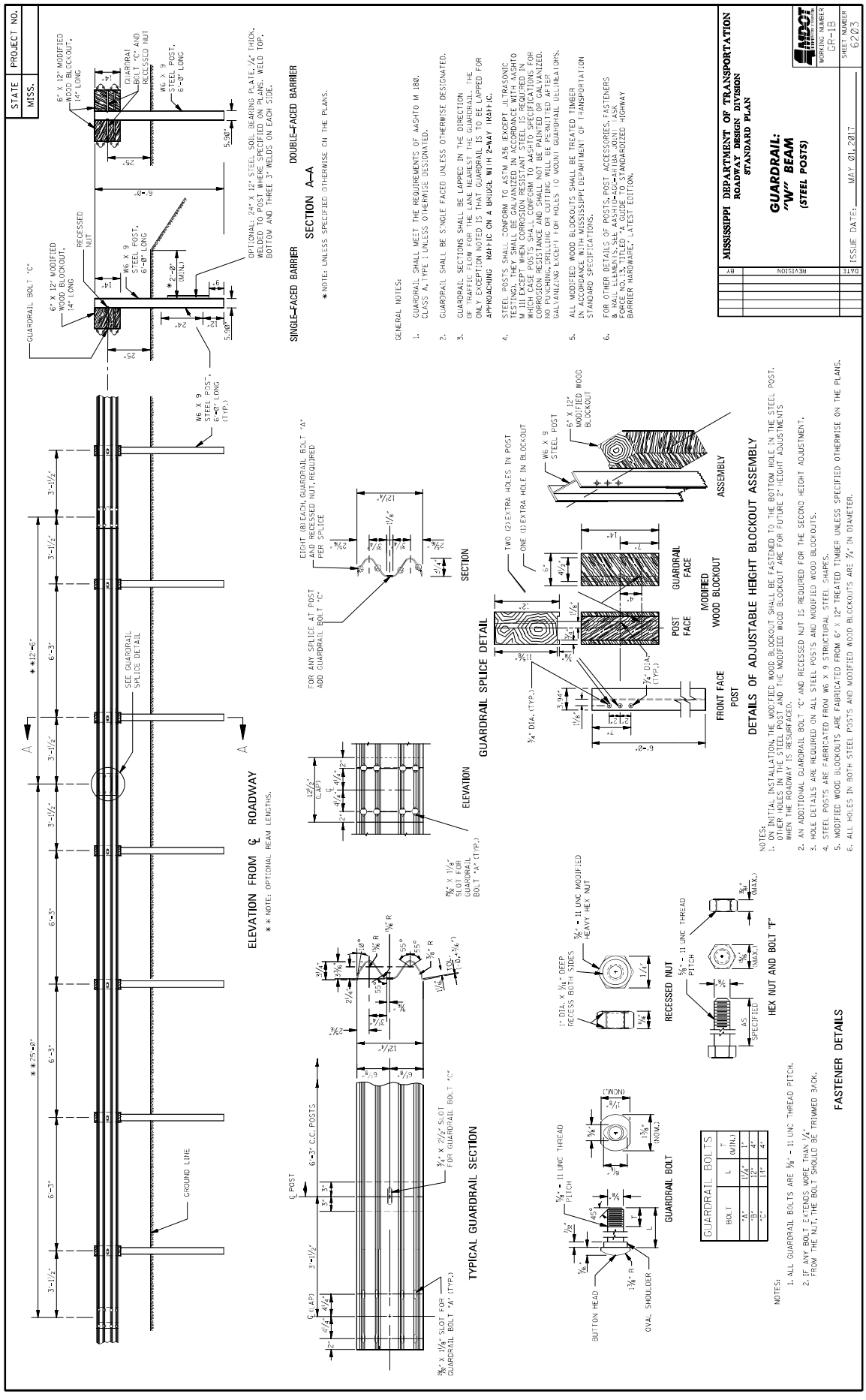
SUPPLEMENT TO NOTICE TO BIDDERS NO. 3599

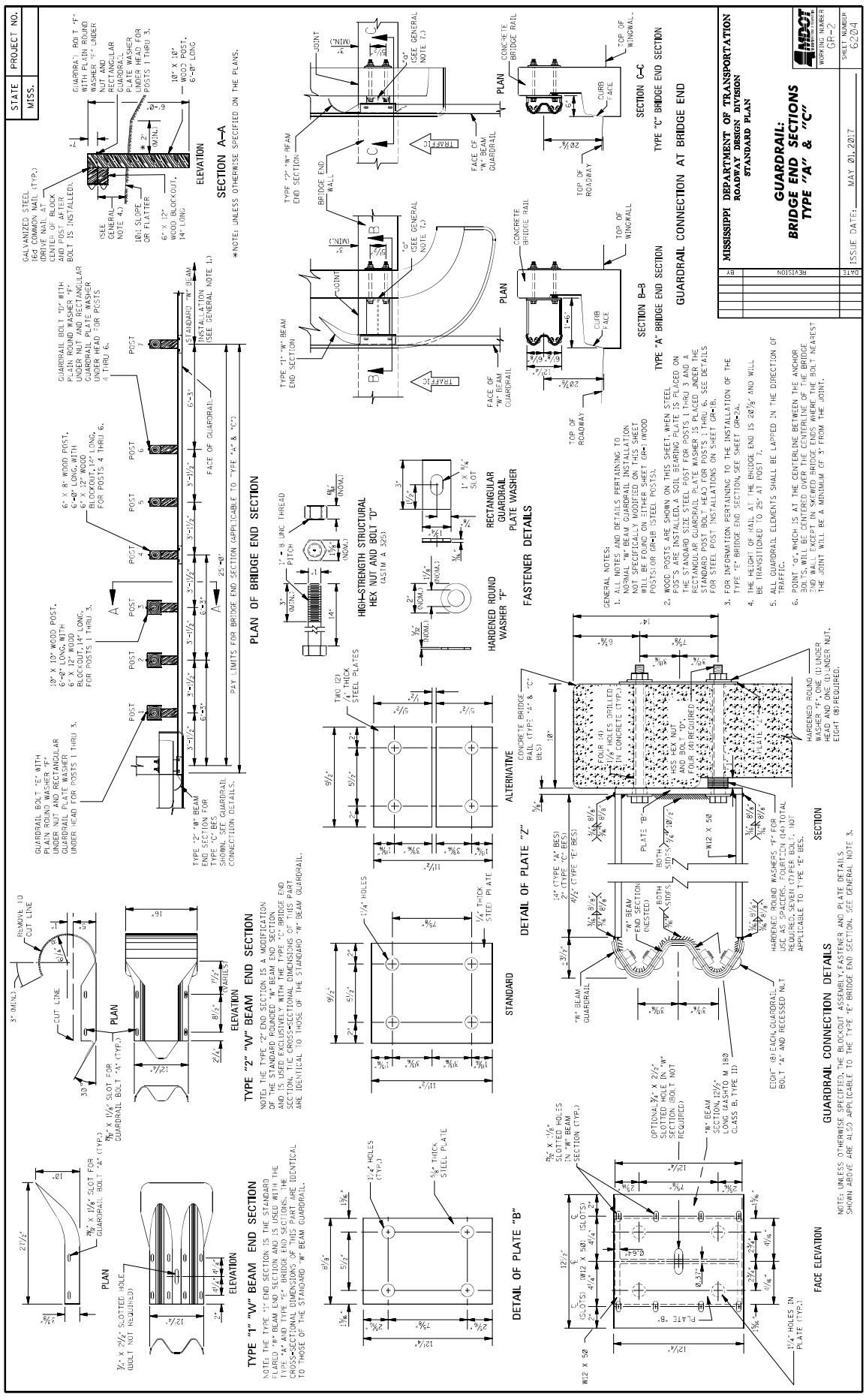
DATE: 08/11/2021

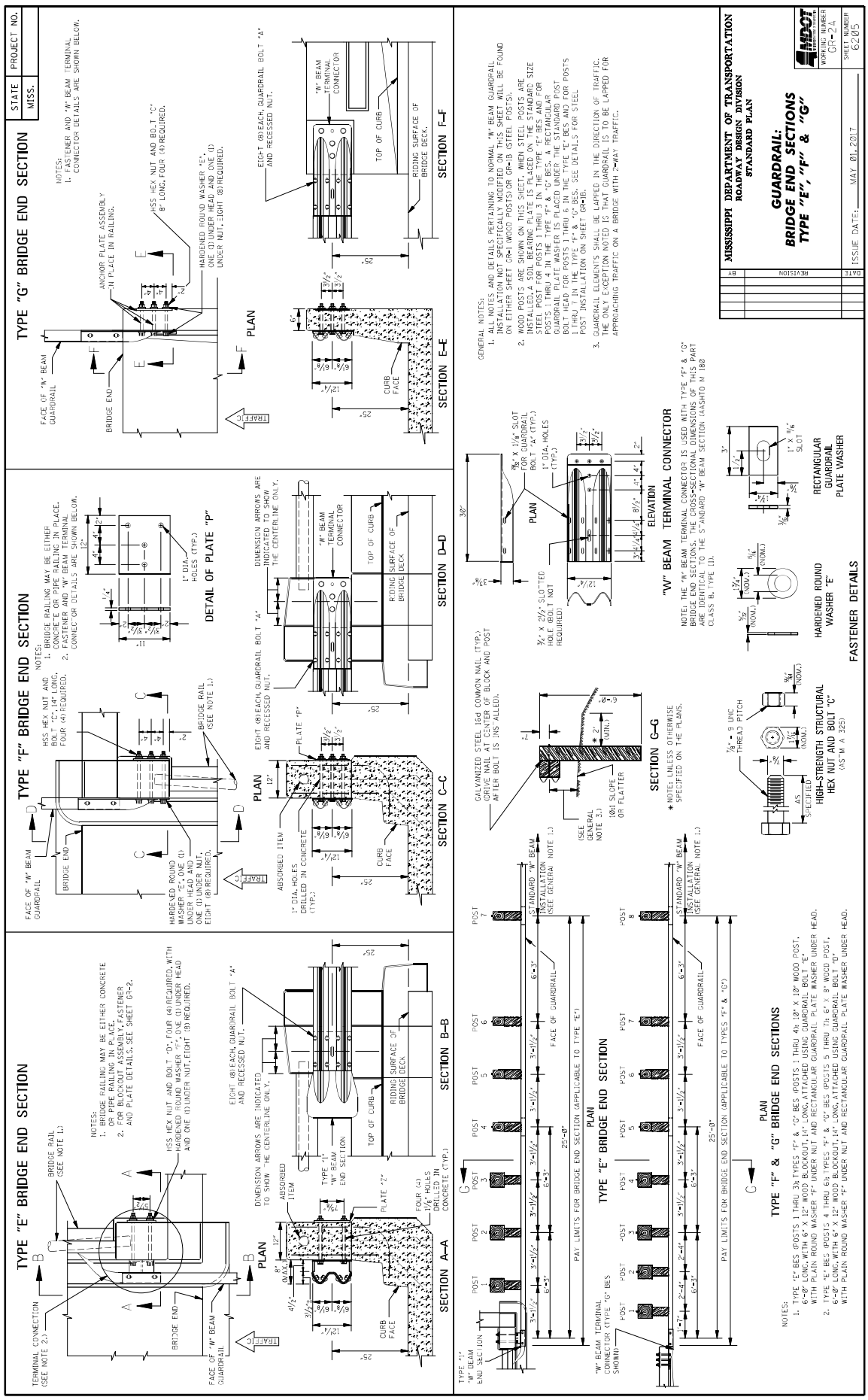
After the last drawing on page 33, add the following.

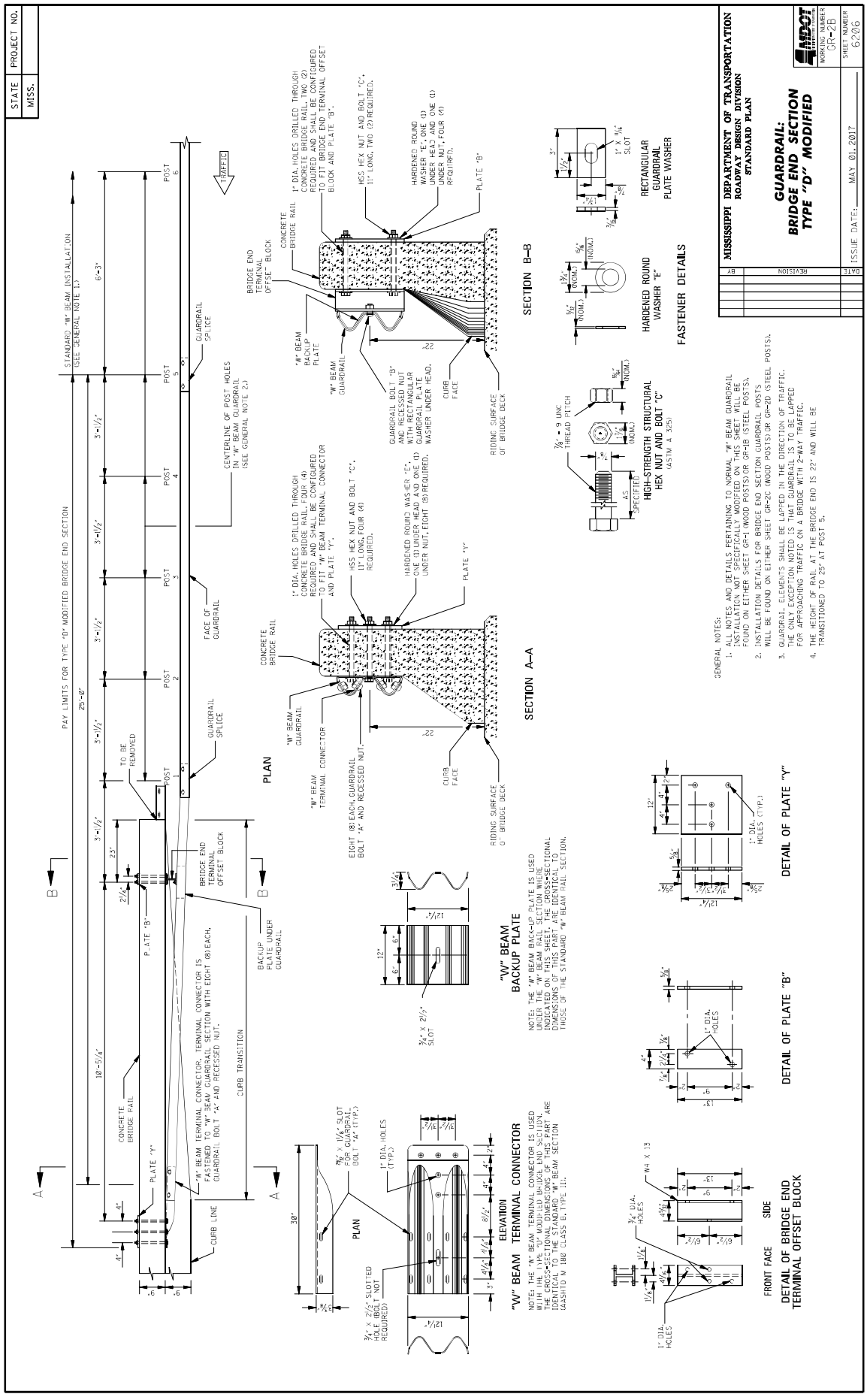

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL: "W" BEAM (WOOD POSTS)
WORKING NUMBER GR-1
SHEET NUMBER 6201
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
SINGLE-FACED BARRIER
DOUBLE-FACED BARRIER
SECTION A-A
*NOTE: UNLESS SPECIFIED OTHERWISE ON THE PLANS.
GENERAL NOTES:
1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1 UNLESS OTHERWISE DESIGNATED.
2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A SPLIT 2-WAY TRAFFIC.
4. ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
5. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.
ELEVATION FROM ℄ ROADWAY
** NOTE: OPTIONAL BEAM LENGTHS.
TYPICAL GUARDRAIL SECTION
GUARDRAIL SPLICE DETAIL
DETAILS OF ADJUSTABLE HEIGHT BLOCKOUT ASSEMBLY
NOTES:
1. ON INITIAL INSTALLATION, THE BLOCKOUT SHALL BE ATTACHED TO THE BOTTOM HOLE IN THE POST. OTHER HOLES IN THE POST AND BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENT WHEN THE ROADWAY IS RESURFACED.
2. FOR THE SECOND HEIGHT ADJUSTMENT, ONE (1) HEX NUT AND BOLT "D", 22" LONG FOR SINGLE-FACED BARRIER OR BOLT "F", 33" LONG FOR DOUBLE-FACED BARRIER, WITH TWO (2) PLAIN ROUND WASHERS "F", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, ARE REQUIRED PER POST IN ADDITION TO THE STANDARD GUARDRAIL BOLT AND RECESSED NUT.
3. HOLE DETAILS ARE REQUIRED ON ALL WOOD POSTS AND BLOCKOUTS.
4. WOOD POSTS ARE FABRICATED FROM 6" X 8" TREATED TIMBER AND BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
5. ALL HOLES IN BOTH POSTS AND BLOCKOUTS ARE 3/4" IN DIAMETER.
FASTENER DETAILS
GUARDRAIL BOLTS
NOTES:
1. ALL GUARDRAIL BOLTS ARE 5/8" - 11 UNC THREAD PITCH.
2. IF ANY BOLT EXTENDS MORE THAN 1/4" FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.
* 3. GUARDRAIL BOLT "F" IS USED FOR SINGLE-FACED BARRIER WITH 10" X 10" WOOD POST AND 6" X 12" WOOD BLOCKOUT.

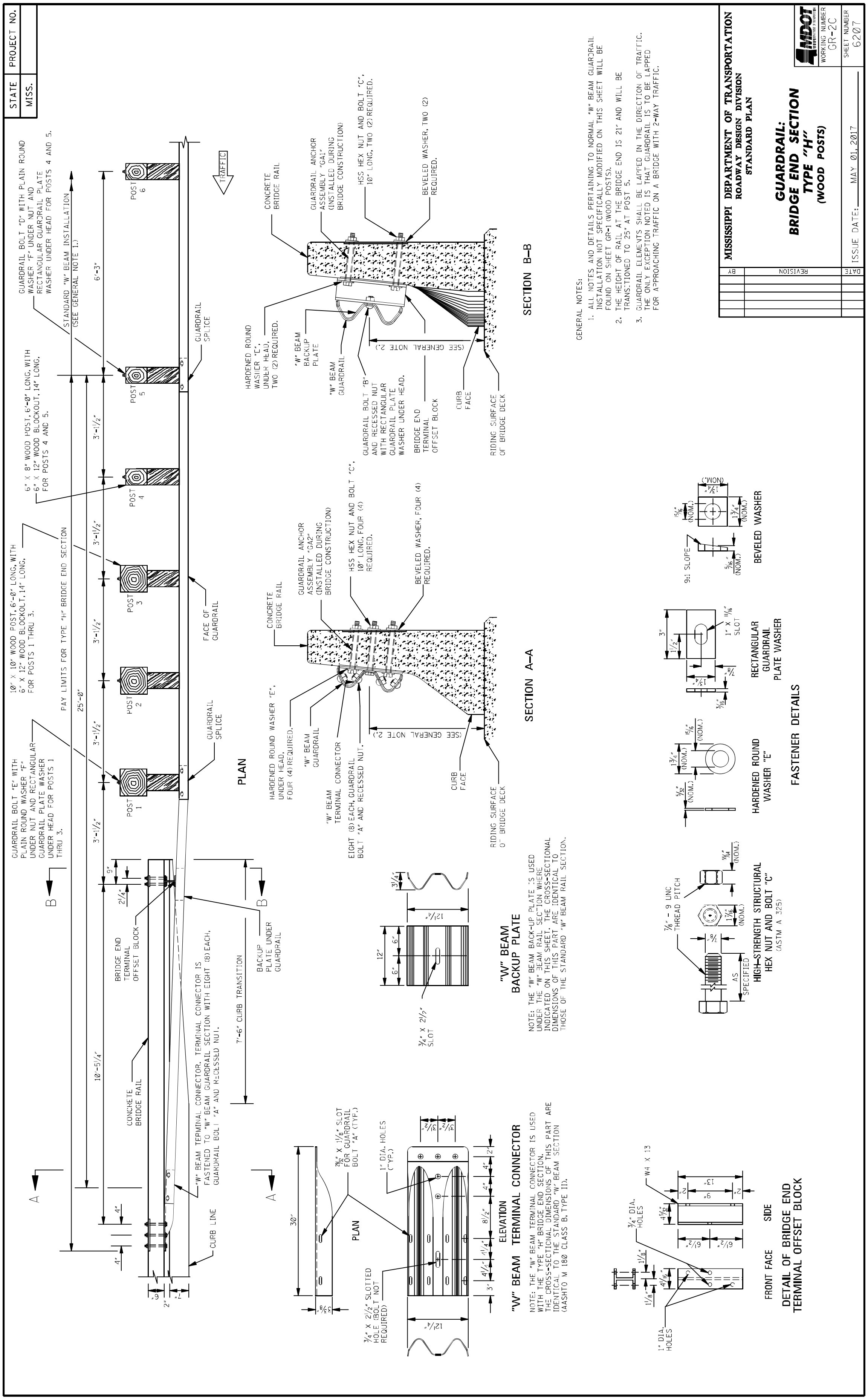

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL: THRIE BEAM (WOOD POSTS)
WORKING NUMBER GR-1A
SHEET NUMBER 6202
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTES:
1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I UNLESS OTHERWISE DESIGNATED.
2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
4. ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
5. FOR FASTENER DETAILS NOT FOUND ON THIS SHEET, SEE SHEET GR-1.
6. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.
SECTION A–A
* NOTE: UNLESS SPECIFIED OTHERWISE ON THE PLANS.
SINGLE-FACED BARRIER
DOUBLE-FACED BARRIER
GUARDRAIL BOLT "D"
6" X 12" WOOD BLOCKOUT, 22" LONG
RECESSED NUT WITH PLAIN ROUND WASHER "F"
6" X 8" WOOD POST, 6'-6" LONG
GUARDRAIL BOLT "F"
6" X 12" WOOD BLOCKOUT, 22" LONG
ELEVATION FROM ℄ ROADWAY
** NOTE: OPTIONAL BEAM LENGTHS.
SEE GUARDRAIL SPLICE DETAIL
GROUND LINE
TYPICAL GUARDRAIL SECTION
℄ POST
6'-3" C.C. POSTS
(LAP)
OPTIONAL HOLES USED ONLY WHERE SPECIFIED ON PLANS.
3/4" X 2 1/2" SLOT FOR GUARDRAIL BOLT "D" OR "F"
3/4" X 1 1/8" HOR. GUARDRAIL BOLT "A" (TYP.)
FOR ANY SPLICE AT POST ADD TWELVE (12) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT, REQUIRED PER SPLICE
3/4" X 1 1/2" SLOT FOR GUARDRAIL BOLT "A" (TYP.)
SECTION
ELEVATION
GUARDRAIL SPLICE DETAIL
"W" THRIE-BEAM TRANSITION SECTION
NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THE "W" AND THRIE BEAM ENDS OF THE TRANSITION SECTION ARE THE SAME AS THEIR RESPECTIVE TYPICAL GUARDRAIL SECTIONS.
DETAILS OF ADJUSTABLE HEIGHT BLOCKOUT ASSEMBLY
FOUR (4) EXTRA HOLES IN POST
6" X 12" WOOD BLOCKOUT
6" X 8" WOOD POST
NOTES:
1. ON INITIAL INSTALLATION, THE TOP OF THE BLOCKOUT SHALL BE FLUSH WITH THE TOP OF THE POST. THE ADDITIONAL HOLES IN THE POST AND BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENTS WHEN THE ROADWAY IS RESURFACED.
2. HOLE DETAILS ARE REQUIRED ON ALL WOOD POSTS AND BLOCKOUTS.
3. WOOD POSTS ARE FABRICATED FROM 6" X 8" TREATED TIMBER AND BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
4. ALL HOLES IN BOTH POSTS AND BLOCKOUTS ARE 3/4" IN DIAMETER.

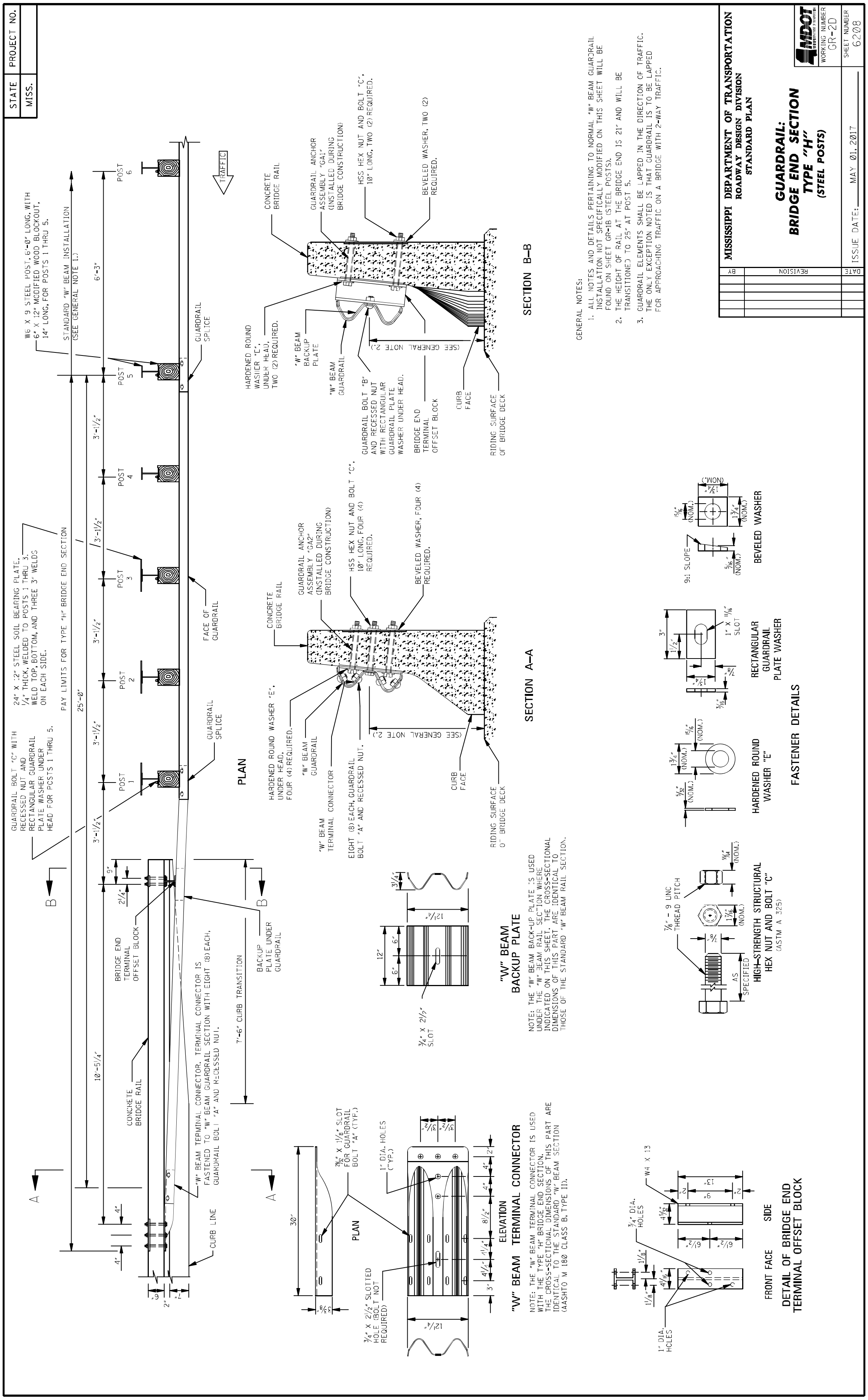

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL: "W" BEAM (STEEL POSTS)
WORKING NUMBER GR-1B
SHEET NUMBER 6203
ISSUE DATE: MAY 01, 2017
BY REVISION DATE
SINGLE-FACED BARRIER
DOUBLE-FACED BARRIER
SECTION A-A
*NOTE: UNLESS SPECIFIED OTHERWISE ON THE PLANS.
GENERAL NOTES:
1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I UNLESS OTHERWISE DESIGNATED.
2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING HAFFIC ON A BRIDGE WITH 2-WAY IRAFFIC.
4. STEEL POSTS SHALL CONFORM TO ASTM A36 (EXCEPT ULTRASONIC TESTING) AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 EXCEPT WHEN CORROSION RESISTANT STEEL IS REQUIRED IN WHICH CASE POSTS SHALL CONFORM TO AASHTO SPECIFICATIONS FOR CORROSION RESISTANCE AND SHALL NOT BE PAINTED OR GALVANIZED. NO PUNCHING, DRILLING OR CUTTING WILL BE PERMITTED AFTER GALVANIZING EXCEPT FOR HOLES TO MOUNT GUARDRAIL DELINEATORS.
5. ALL MODIFIED WOOD BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
6. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.
ELEVATION FROM ℄ ROADWAY
** NOTE: OPTIONAL BEAM LENGTHS.
TYPICAL GUARDRAIL SECTION
GUARDRAIL SPLICE DETAIL
SECTION
ELEVATION
FOR ANY SPLICE AT POST ADD GUARDRAIL BOLT "C"
EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT, REQUIRED PER SPLICE
TWO (2) EXTRA HOLES IN POST
ONE (1) EXTRA HOLE IN BLOCKOUT
W6 X 9 STEEL POST
6" X 12" MODIFIED WOOD BLOCKOUT
POST FACE
GUARDRAIL FACE
MODIFIED WOOD BLOCKOUT
FRONT FACE POST
ASSEMBLY
DETAILS OF ADJUSTABLE HEIGHT BLOCKOUT ASSEMBLY
NOTES:
1. ON INITIAL INSTALLATION, THE MODIFIED WOOD BLOCKOUT SHALL BE FASTENED TO THE BOTTOM HOLE IN THE STEEL POST. OTHER HOLES IN THE STEEL POST AND THE MODIFIED WOOD BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENTS WHEN THE ROADWAY IS RESURFACED.
2. AN ADDITIONAL GUARDRAIL BOLT "C" AND RECESSED NUT IS REQUIRED FOR THE SECOND HEIGHT ADJUSTMENT.
3. HOLE DETAILS ARE REQUIRED ON ALL STEEL POSTS AND MODIFIED WOOD BLOCKOUTS.
4. STEEL POSTS ARE FABRICATED FROM W6 X 9 STRUCTURAL STEEL SHAPES.
5. MODIFIED WOOD BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
6. ALL HOLES IN BOTH STEEL POSTS AND MODIFIED WOOD BLOCKOUTS ARE 3/4" IN DIAMETER.
FASTENER DETAILS
GUARDRAIL BOLT
HEX NUT AND BOLT "F"
RECESSED NUT
GUARDRAIL BOLTS
BOLT L T (MIN.)
"A" 1'-1/4" 1"
"B" 12" 4"
"C" 14" 4"
NOTES:
1. ALL GUARDRAIL BOLTS ARE 5/8" - 11 UNC THREAD PITCH.
2. IF ANY BOLT EXTENDS MORE THAN 1/4" FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.

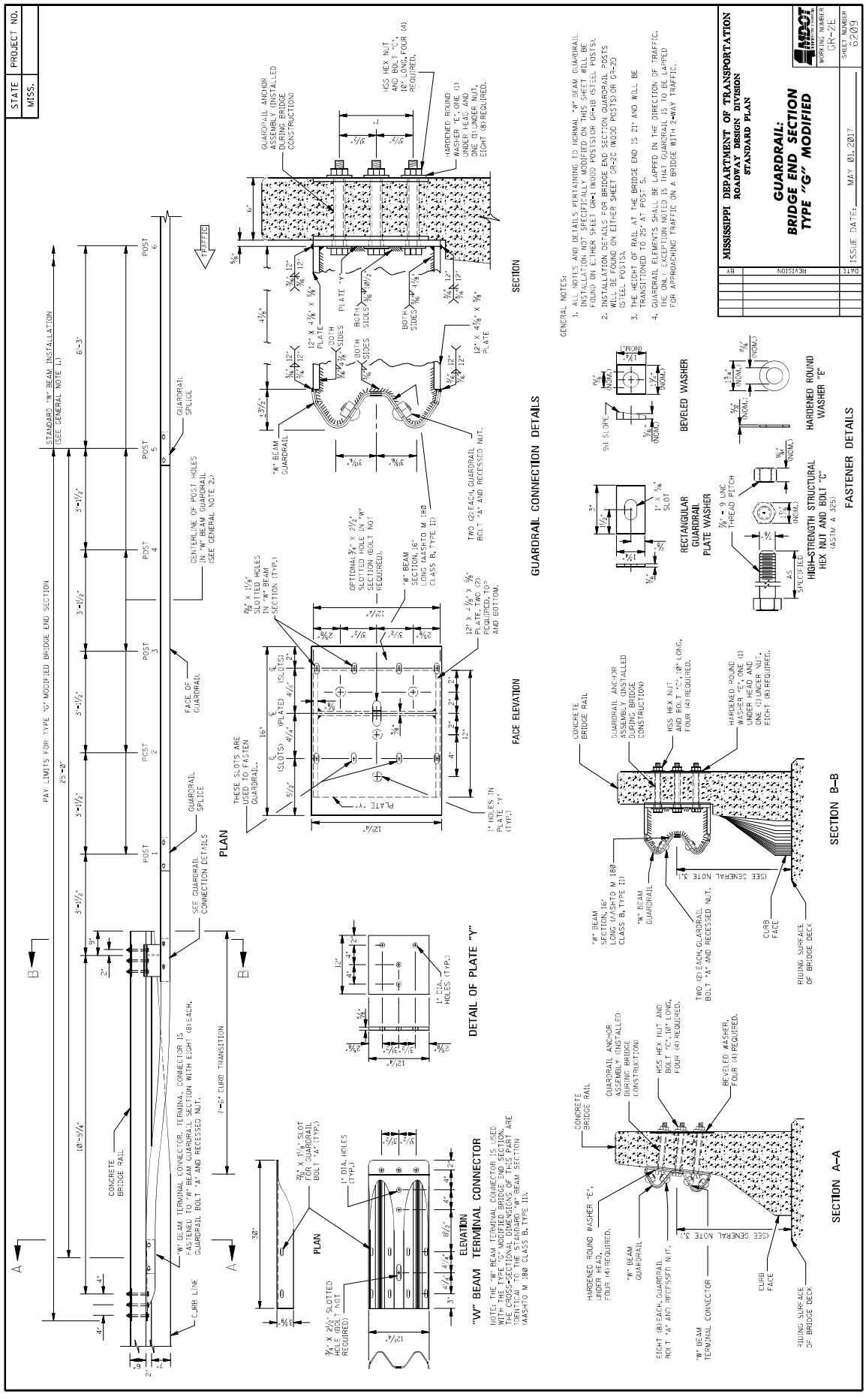

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTIONS
TYPE "A" & "C"
WORKING NUMBER GR-2
SHEET NUMBER 6204
ISSUE DATE: MAY 01, 2017
DATE BY REVISION
PLAN OF BRIDGE END SECTION
SECTION A-A
*NOTE: UNLESS OTHERWISE SPECIFIED ON THE PLANS.
TYPE "2" "W" BEAM END SECTION
TYPE "1" "W" BEAM END SECTION
DETAIL OF PLATE "B"
DETAIL OF PLATE "Z"
FASTENER DETAILS
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "D" (ASTM A 325)
HARDENED ROUND WASHER "F"
RECTANGULAR GUARDRAIL PLATE WASHER
GUARDRAIL CONNECTION DETAILS
TYPE "A" BRIDGE END SECTION
TYPE "C" BRIDGE END SECTION
GUARDRAIL CONNECTION AT BRIDGE END
SECTION B-B
SECTION C-C
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS)OR GR-1B (STEEL POSTS).
2. WOOD POSTS ARE SHOWN ON THIS SHEET. WHEN STEEL POSTS ARE INSTALLED, A SOIL BEARING PLATE IS PLACED ON THE STANDARD SIZE STEEL POST FOR POSTS 1 THRU 3 AND A RECTANGULAR GUARDRAIL PLATE WASHER IS PLACED UNDER THE STANDARD POST HEAD FOR POSTS 1 THRU 6. SEE DETAILS FOR STEEL POST INSTALLATIONS ON SHEET GR-1B.
3. FOR INFORMATION PERTAINING TO THE INSTALLATION OF THE TYPE "E" BRIDGE END SECTION, SEE SHEET GR-2A.
4. THE HEIGHT OF RAIL AT THE BRIDGE END IS 20⅞" AND WILL BE TRANSITIONED TO 25" AT POST 7.
5. ALL GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC.
6. POINT "G", WHICH IS AT THE CENTERLINE BETWEEN THE ANCHOR BOLTS, WILL BE CENTERED OVER THE CENTERLINE OF THE BRIDGE END WALL EXCEPT IN SKEWED BRIDGE ENDS WHERE THE BOLT NEAREST THE JOINT WILL BE A MINIMUM OF 3" FROM THE JOINT.

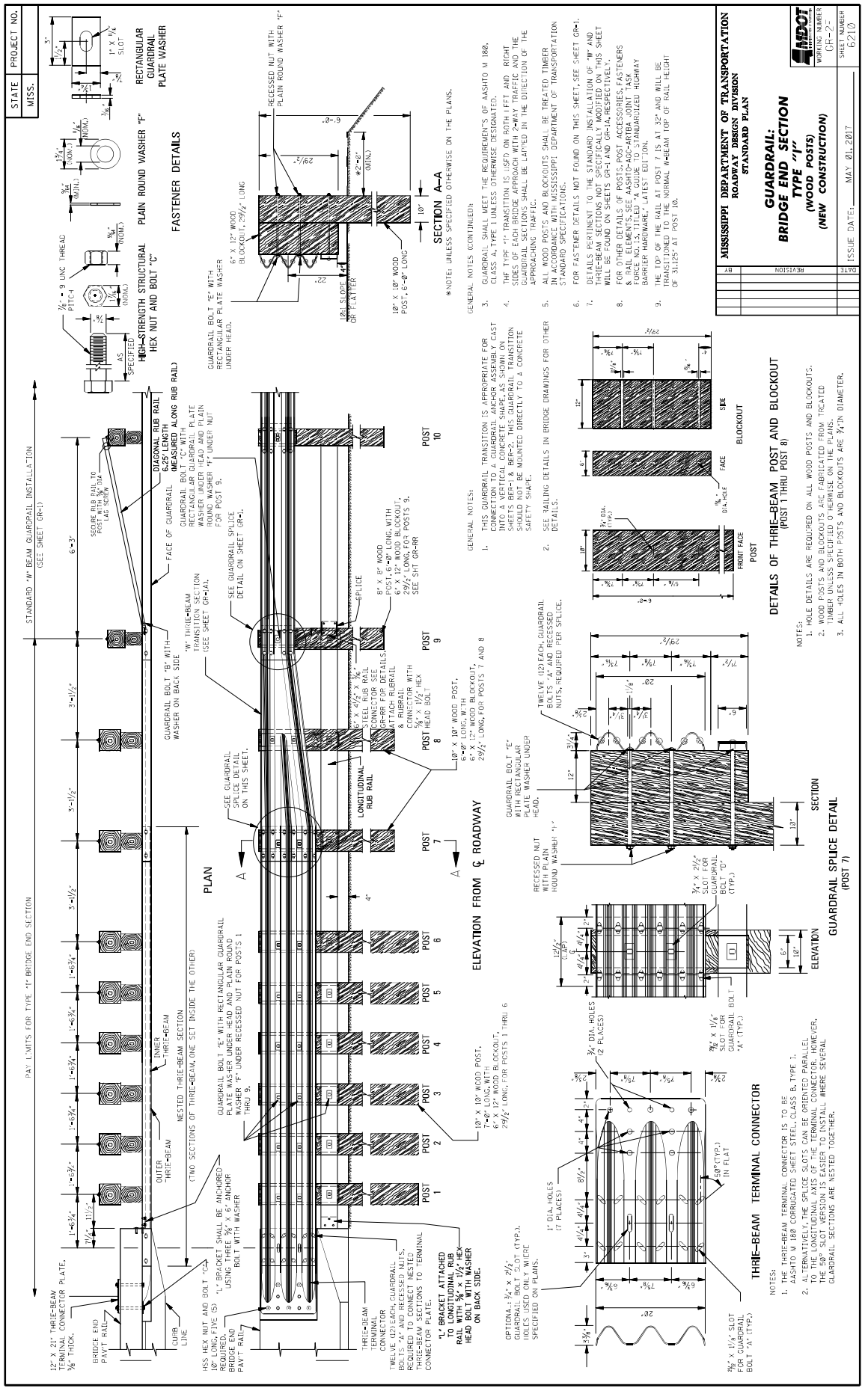

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTIONS
TYPE "E", "F" & "G"
WORKING NUMBER GR-24
SHEET NUMBER 6205
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
TYPE "E" BRIDGE END SECTION
TYPE "F" BRIDGE END SECTION
TYPE "G" BRIDGE END SECTION
DETAIL OF PLATE "P"
"W" BEAM TERMINAL CONNECTOR
RECTANGULAR GUARDRAIL PLATE WASHER
HARDENED ROUND WASHER "E"
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C"
FASTENER DETAILS
TYPE "F" & "G" BRIDGE END SECTIONS
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS) OR GR-1B (STEEL POSTS).
2. WOOD POSTS ARE SHOWN ON THIS SHEET. WHEN STEEL POSTS ARE INSTALLED, A SOIL BEARING PLATE IS PLACED ON THE STANDARD SIZE STEEL POST FOR POSTS 1 THRU 3 IN THE TYPE "E" BES AND FOR GUARDRAIL PLATE WASHER IS PLACED UNDER THE STANDARD POST BOLT HEAD FOR POSTS 1 THRU 6 IN THE TYPE "E" BES AND FOR POSTS 1 THRU 7 IN THE TYPE "F" & "G" BES. SEE DETAILS FOR STEEL POST INSTALLATION ON SHEET GR-1B.
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.

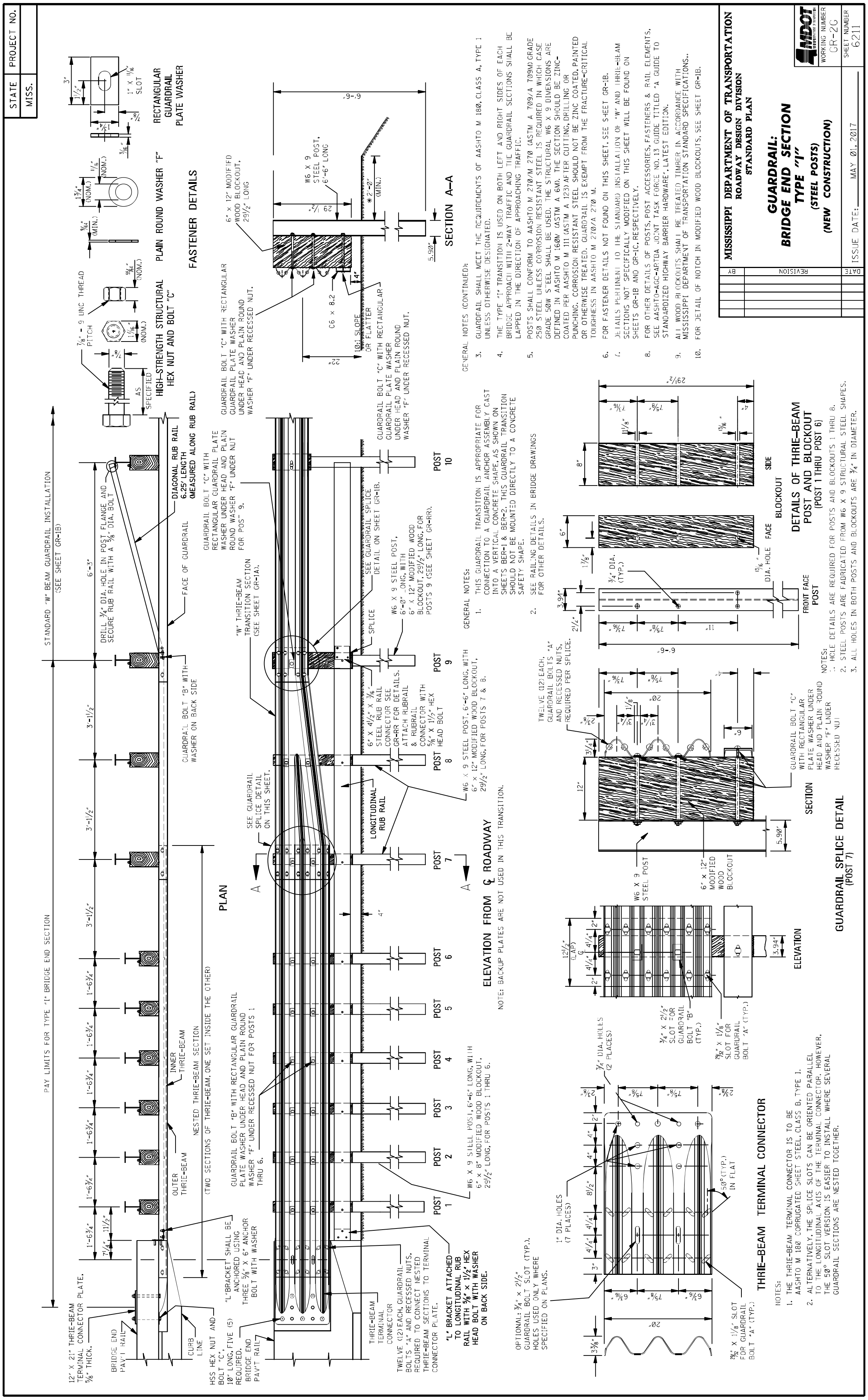

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "D" MODIFIED
WORKING NUMBER GR-2B
SHEET NUMBER 6206
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
PAY LIMITS FOR TYPE "D" MODIFIED BRIDGE END SECTION
STANDARD "W" BEAM INSTALLATION (SEE GENERAL NOTE 1.)
CENTERLINE OF POST HOLES IN "W" BEAM GUARDRAIL (SEE GENERAL NOTE 2.)
FACE OF GUARDRAIL
GUARDRAIL SPLICE
TRAFFIC
TO BE REMOVED
BRIDGE END TERMINAL OFFSET BLOCK
BACKUP PLATE UNDER GUARDRAIL
CURB TRANSITION
CURB LINE
CONCRETE BRIDGE RAIL
PLATE "Y"
"W" BEAM TERMINAL CONNECTOR, TERMINAL CONNECTOR IS FASTENED TO "W" BEAM GUARDRAIL SECTION WITH EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
PLAN
SECTION A–A
SECTION B–B
"W" BEAM TERMINAL CONNECTOR
"W" BEAM BACKUP PLATE
DETAIL OF PLATE "B"
DETAIL OF PLATE "Y"
DETAIL OF BRIDGE END TERMINAL OFFSET BLOCK
FASTENER DETAILS
HARDENED ROUND WASHER "E"
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C"
RECTANGULAR GUARDRAIL PLATE WASHER
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION AS SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-2C (WOOD POSTS) OR GR-2D (STEEL POSTS).
2. INSTALLATION DETAILS FOR BRIDGE END SECTION GUARDRAIL POSTS WILL BE FOUND ON EITHER SHEET GR-2C (WOOD POSTS) OR GR-2D (STEEL POSTS).
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
4. THE "HEIGHT" OF RAIL AT THE BRIDGE END IS 22" AND WILL BE TRANSITIONED TO 25" AT POST 5.

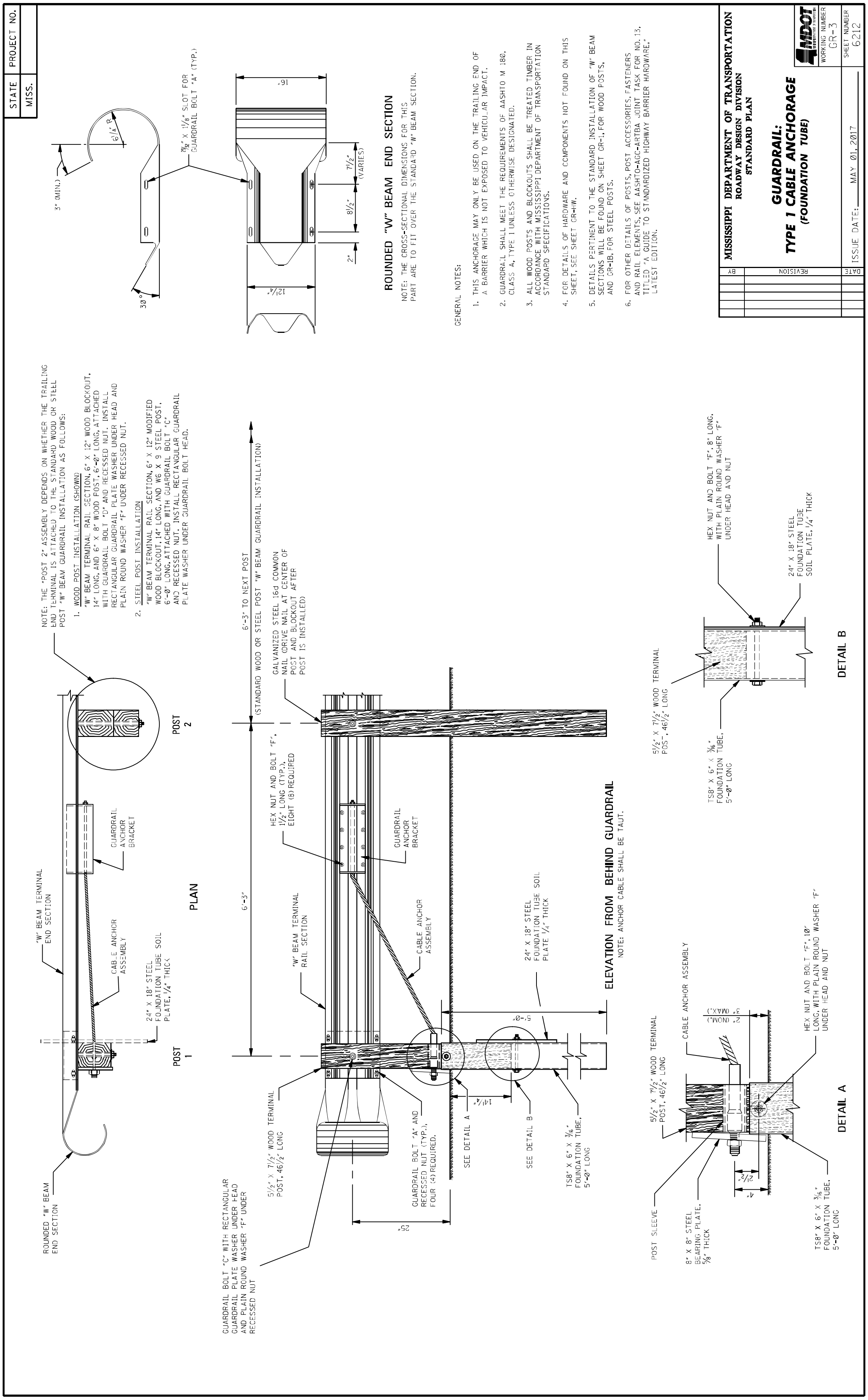

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "H"
(WOOD POSTS)
ISSUE DATE: MAY 01, 2017
WORKING NUMBER GR-2C
SHEET NUMBER 6207
STATE MISS.
PROJECT NO.
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON SHEET GR-1 (WOOD POSTS).
2. THE HEIGHT OF RAIL AT THE BRIDGE END IS 21" AND WILL BE TRANSITIONED TO 25" AT POST 5.
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
PLAN
SECTION A-A
SECTION B-B
"W" BEAM BACKUP PLATE
"W" BEAM TERMINAL CONNECTOR
FASTENER DETAILS
DETAIL OF BRIDGE END TERMINAL OFFSET BLOCK

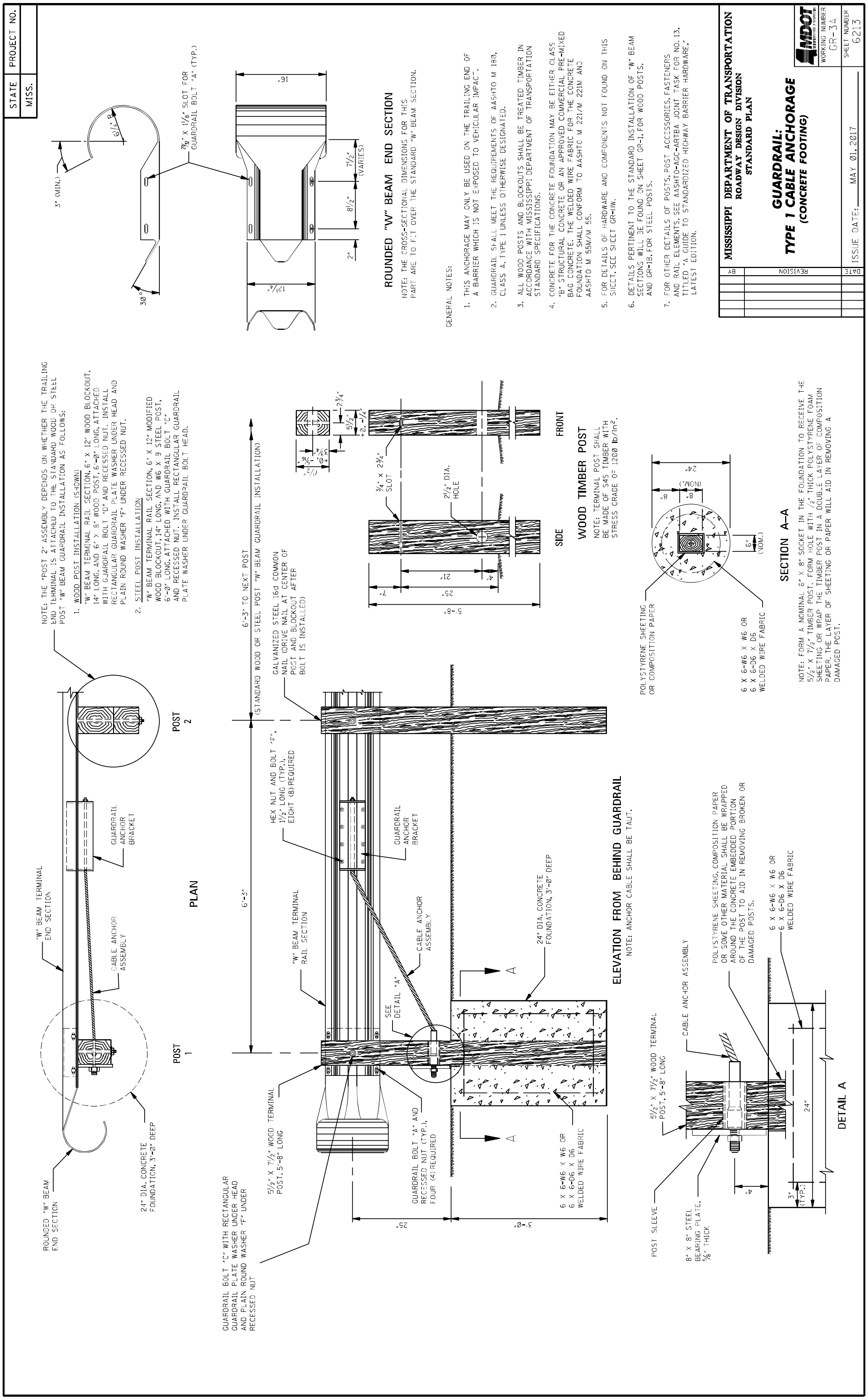

STATE
PROJECT NO.
MISS.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "H"
(STEEL POSTS)
ISSUE DATE: MAY 01, 2017
WORKING NUMBER
GR-2D
SHEET NUMBER
6208
DATE
REVISION
BY
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON SHEET GR-1B (STEEL POSTS).
2. THE HEIGHT OF RAIL AT THE BRIDGE END IS 21" AND WILL BE TRANSITIONED TO 25" AT POST 5.
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
PLAN
SECTION A-A
SECTION B-B
"W" BEAM BACKUP PLATE
"W" BEAM TERMINAL CONNECTOR
FASTENER DETAILS
DETAIL OF BRIDGE END TERMINAL OFFSET BLOCK
HARDENED ROUND WASHER "E"
RECTANGULAR GUARDRAIL PLATE WASHER
BEVELED WASHER
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C"
TRAFFIC
POST 1
POST 2
POST 3
POST 4
POST 5
POST 6
25'-0"
6'-3"
7'-6" CURB TRANSITION
CURB LINE
FACE OF GUARDRAIL
GUARDRAIL SPLICE
CONCRETE BRIDGE RAIL
BRIDGE END TERMINAL OFFSET BLOCK
BACKUP PLATE UNDER GUARDRAIL
PAY LIMITS FOR TYPE "H" BRIDGE END SECTION
STANDARD "W" BEAM INSTALLATION (SEE GENERAL NOTE 1.)
RIDING SURFACE OF BRIDGE DECK
CURB FACE
(SEE GENERAL NOTE 2.)

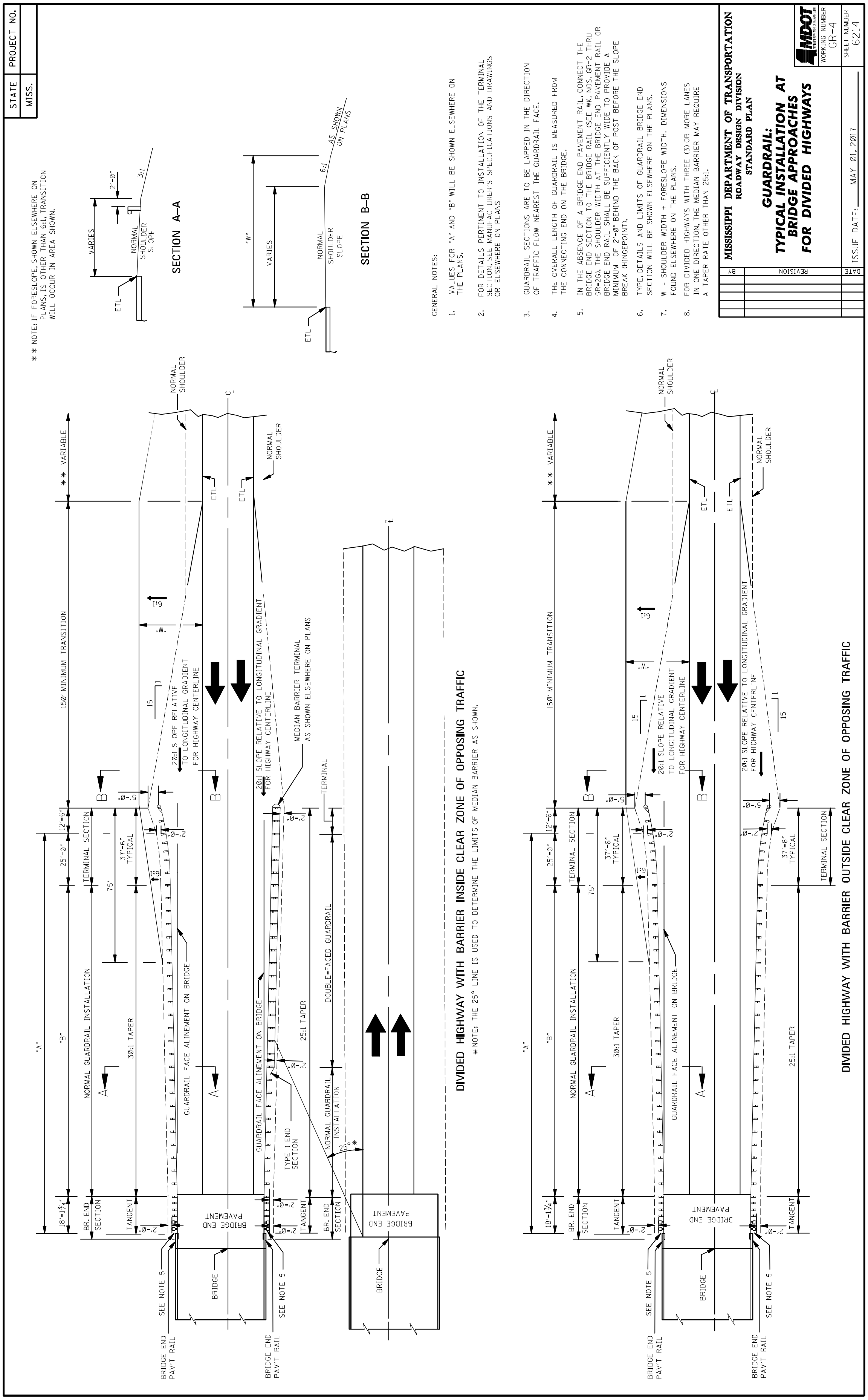

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "G" MODIFIED
WORKING NUMBER GR-2E
SHEET NUMBER 6209
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTES:
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS) OR GR-1B (STEEL POSTS).
2. INSTALLATION DETAILS FOR BRIDGE END SECTION GUARDRAIL POSTS WILL BE FOUND ON EITHER SHEET GR-2C (WOOD POSTS) OR GR-2D (STEEL POSTS).
3. THE HEIGHT OF RAIL AT THE BRIDGE END IS 21" AND WILL BE TRANSITIONED TO 25" AT POST 5.
4. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL IS TO BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
PLAN
SECTION A–A
SECTION B–B
FACE ELEVATION
SECTION
GUARDRAIL CONNECTION DETAILS
DETAIL OF PLATE "Y"
"W" BEAM TERMINAL CONNECTOR
ELEVATION
PLAN
NOTE: THE "W" BEAM TERMINAL CONNECTOR IS USED WITH THE TYPE "G" MODIFIED BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THE STANDARD "W" BEAM SECTION (AASHTO M 180 CLASS B, TYPE II).
BEVELED WASHER
RECTANGULAR GUARDRAIL PLATE WASHER
HARDENED ROUND WASHER "E"
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C" (ASTM A 325)
FASTENER DETAILS
PAY LIMITS FOR TYPE "G" MODIFIED BRIDGE END SECTION
STANDARD "W" BEAM INSTALLATION (SEE GENERAL NOTE 1.)
CENTERLINE OF POST HOLES IN "W" BEAM GUARDRAIL (SEE GENERAL NOTE 2.)
FACE OF GUARDRAIL
GUARDRAIL SPLICE
SEE GUARDRAIL CONNECTION DETAILS
CONCRETE BRIDGE RAIL
CURB LINE
"W" BEAM TERMINAL CONNECTOR, TERMINAL CONNECTOR IS FASTENED TO "W" BEAM SECTION WITH EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
7'-6" CURB TRANSITION
TRAFFIC
POST 1
POST 2
POST 3
POST 4
POST 5
POST 6
THESE SLOTS ARE USED TO FASTEN GUARDRAIL.
1" HOLES IN PLATE "Y" (TYP.)
OPTIONAL 3/4" X 2 1/2" SLOTTED HOLE IN "W" SECTION (BOLT NOT REQUIRED).
"W" BEAM SECTION, 16' LONG (AASHTO M 180 CLASS B, TYPE II)
TWO (2) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
12" X 4 1/4" X 5/8" PLATE
BOTH SIDES
PLATE "Y"
GUARDRAIL ANCHOR ASSEMBLY (INSTALLED DURING BRIDGE CONSTRUCTION)
HSS HEX NUT AND BOLT "C", 10" LONG, FOUR (4) REQUIRED.
HARDENED ROUND WASHER "E", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, EIGHT (8) REQUIRED.
"W" BEAM GUARDRAIL
12" X 4 1/4" X 5/8" PLATE
TWO (2) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
12" X 1/2" X 5/8" PLATE, TWO (2) REQUIRED, TOP AND BOTTOM.
3/4" X 1 1/8" SLOTTED HOLES IN "W" BEAM SECTION (TYP.)
1" DIA. HOLES (TYP.)
3/4" X 2 1/2" SLOTTED HOLE NOT REQUIRED
3/4" X 1 1/8" SLOT FOR GUARDRAIL BOLT "A" (TYP.)
CONCRETE BRIDGE RAIL
GUARDRAIL ANCHOR ASSEMBLY (INSTALLED DURING BRIDGE CONSTRUCTION)
HSS HEX NUT AND BOLT "C", 10" LONG, FOUR (4) REQUIRED.
HARDENED ROUND WASHER "E", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, EIGHT (8) REQUIRED.
"W" BEAM SECTION, 16' LONG (AASHTO M 180 CLASS B, TYPE II)
"W" BEAM GUARDRAIL
TWO (2) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
CURB FACE
RIDING SURFACE OF BRIDGE DECK
(SEE GENERAL NOTE 3.)
HARDENED ROUND WASHER "E", UNDER HEAD, FOUR (4) REQUIRED.
BEVELED WASHER, FOUR (4) REQUIRED.
EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.
"W" BEAM TERMINAL CONNECTOR
9:1 SLOPE
1" X 1 1/8" SLOT
3/4" - 9 UNC. THREAD PITCH
A5 SPECIFIED

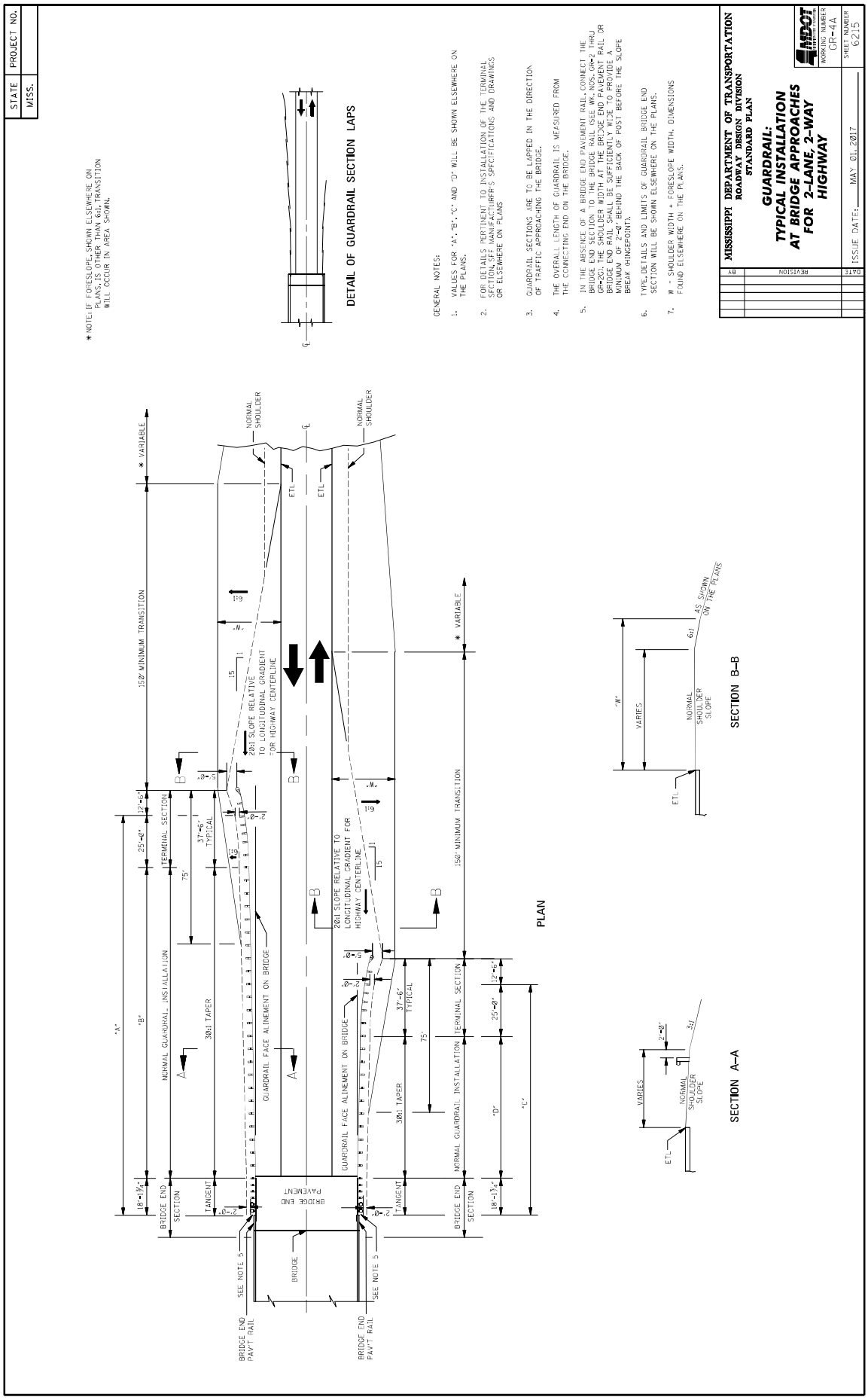

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "I"
(WOOD POSTS)
(NEW CONSTRUCTION)
WORKING NUMBER GR-2-
SHEET NUMBER 6210
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
PLAN
ELEVATION FROM ℄ ROADWAY
FASTENER DETAILS
SECTION A-A
GENERAL NOTES:
GENERAL NOTES (CONTINUED):
DETAILS OF THRIE-BEAM POST AND BLOCKOUT
(POST 1 THRU POST 8)
THRIE-BEAM TERMINAL CONNECTOR
GUARDRAIL SPLICE DETAIL
(POST 7)
SECTION
ELEVATION
PLAIN ROUND WASHER "F"
RECTANGULAR GUARDRAIL PLATE WASHER
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C"
STANDARD "W" BEAM GUARDRAIL INSTALLATION (SEE SHEET GR-1)
PAY LIMITS FOR TYPE "I" BRIDGE END SECTION
DIAGONAL RUB RAIL 6.25' LENGTH (MEASURED ALONG RUB RAIL)
LONGITUDINAL RUB RAIL
POST 1
POST 2
POST 3
POST 4
POST 5
POST 6
POST 7
POST 8
POST 9
POST 10
BLOCKOUT
FACE
SIDE
FRONT FACE
POST
NOTES:
1. HOLE DETAILS ARE REQUIRED ON ALL WOOD POSTS AND BLOCKOUTS.
2. WOOD POSTS AND BLOCKOUTS ARE FABRICATED FROM TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
3. ALL HOLES IN BOTH POSTS AND BLOCKOUTS ARE 3/4"IN DIAMETER.

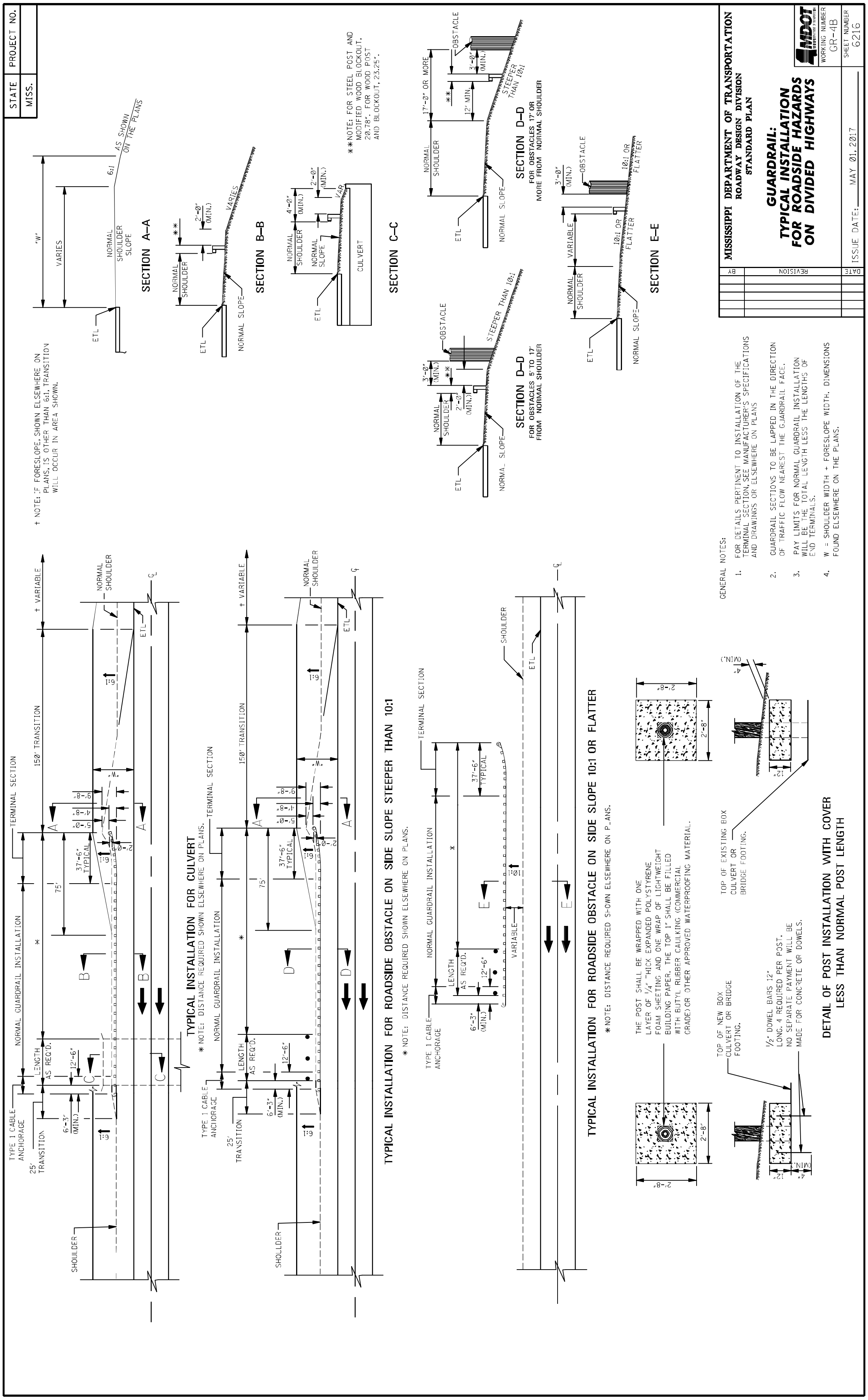

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
BRIDGE END SECTION
TYPE "I"
(STEEL POSTS)
(NEW CONSTRUCTION)
ISSUE DATE: MAY 01, 2017
WORKING NUMBER GR-2C
SHEET NUMBER 6211
STATE MISS.
PROJECT NO.
PLAN
ELEVATION FROM ℄ ROADWAY
NOTE: BACKUP PLATES ARE NOT USED IN THIS TRANSITION.
SECTION A–A
FASTENER DETAILS
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C"
PLAIN ROUND WASHER "F"
RECTANGULAR GUARDRAIL PLATE WASHER
THRIE-BEAM TERMINAL CONNECTOR
GUARDRAIL SPLICE DETAIL (POST 7)
DETAILS OF THRIE-BEAM POST AND BLOCKOUT (POST 1 THRU POST 6)
GENERAL NOTES:
1. THIS GUARDRAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO A GUARDRAIL ANCHOR ASSEMBLY CAST INTO A VERTICAL CONCRETE SHAPE, AS SHOWN ON SHEETS BER-1 & BER-2. THIS GUARDRAIL TRANSITION SHOULD NOT BE MOUNTED DIRECTLY TO A CONCRETE SAFETY SHAPE.
2. SEE RAILING DETAILS IN BRIDGE DRAWINGS FOR OTHER DETAILS.
GENERAL NOTES (CONTINUED):
3. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I UNLESS OTHERWISE DESIGNATED.
4. THE TYPE "I" TRANSITION IS USED ON BOTH LEFT AND RIGHT SIDES OF EACH BRIDGE APPROACH WITH 2-WAY TRAFFIC AND THE GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF APPROACHING TRAFFIC.
6. FOR FASTENER DETAILS NOT FOUND ON THIS SHEET, SEE SHEET GR-1B.
10. FOR DETAIL OF NOTCH IN MODIFIED WOOD BLOCKOUTS, SEE SHEET GR-1B.

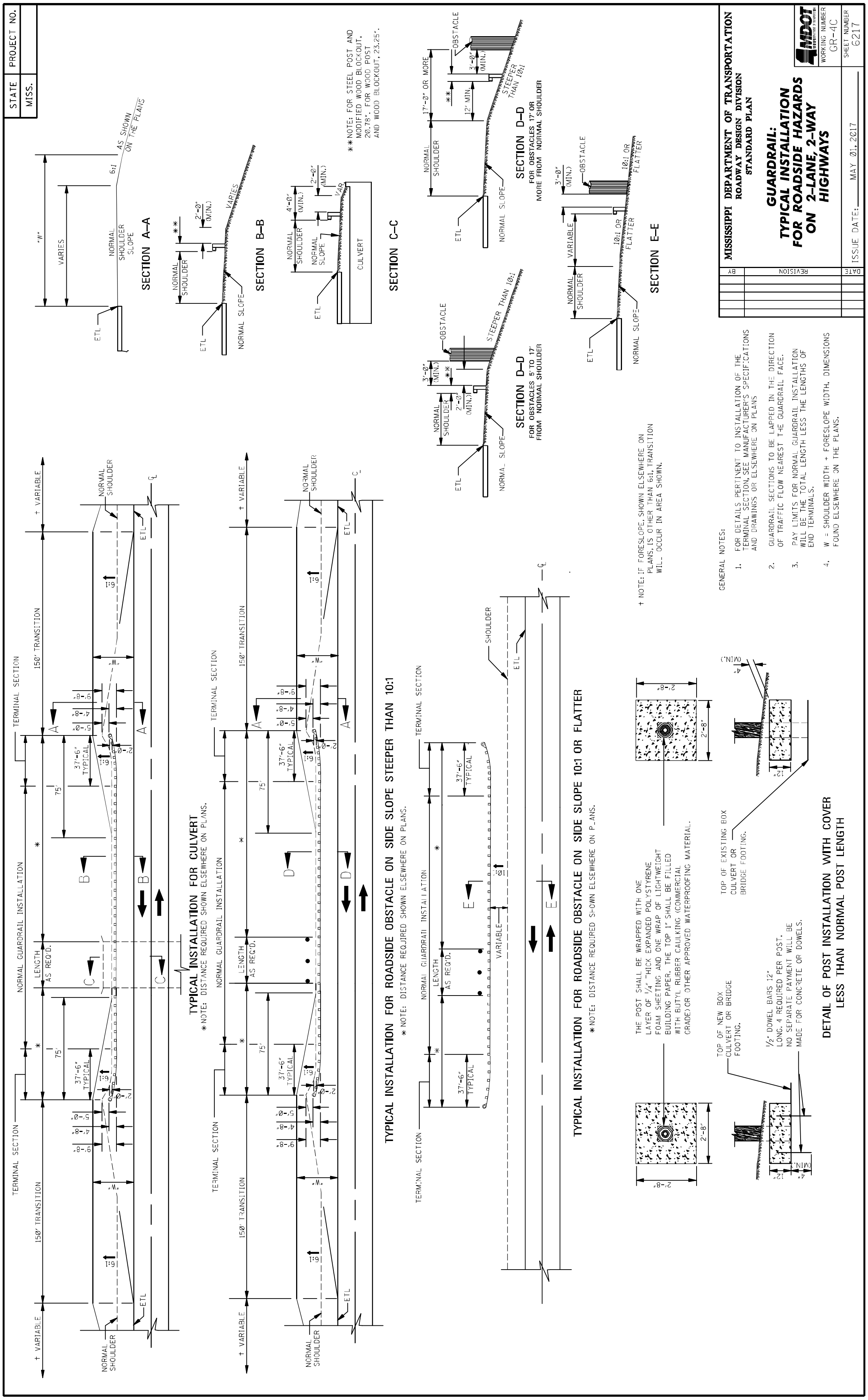

STATE MISS. PROJECT NO.
ROUNDED "W" BEAM END SECTION
"W" BEAM TERMINAL END SECTION
CABLE ANCHOR ASSEMBLY
GUARDRAIL ANCHOR BRACKET
24" X 18" STEEL FOUNDATION TUBE SOIL PLATE, 1/4" THICK
POST 1
POST 2
PLAN
NOTE: THE "POST 2" ASSEMBLY DEPENDS ON WHETHER THE TRAILING END TERMINAL IS ATTACHED TO THE STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION AS FOLLOWS:
1. WOOD POST INSTALLATION (SHOWN)
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" WOOD BLOCKOUT, 14" LONG, AND 6" X 8" WOOD POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "D" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT.
2. STEEL POST INSTALLATION
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" MODIFIED WOOD BLOCKOUT, 14" LONG, AND W6 X 9 STEEL POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "C" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER GUARDRAIL BOLT HEAD.
GUARDRAIL BOLT "C" WITH RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT
6'-3"
6'-3" TO NEXT POST
(STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION)
5½" X 7½" WOOD TERMINAL POST, 46½" LONG
"W" BEAM TERMINAL RAIL SECTION
HEX NUT AND BOLT "F", 1½" LONG (TYP.), EIGHT (8) REQUIRED
GALVANIZED STEEL 16d COMMON NAIL (DRIVE NAIL AT CENTER OF POST AND BLOCKOUT AFTER POST IS INSTALLED)
25"
GUARDRAIL BOLT "A" AND RECESSED NUT (TYP.), FOUR (4) REQUIRED.
CABLE ANCHOR ASSEMBLY
GUARDRAIL ANCHOR BRACKET
SEE DETAIL A
SEE DETAIL B
14¼"
5'-0"
24" X 18" STEEL FOUNDATION TUBE SOIL PLATE 1/4" THICK
TS8" X 6" X 3/16" FOUNDATION TUBE, 5'-0" LONG
ELEVATION FROM BEHIND GUARDRAIL
NOTE: ANCHOR CABLE SHALL BE TAUT.
3" (MIN.)
30°
25/32" X 1⅛" SLOT FOR GUARDRAIL BOLT "A" (TYP.)
12¼"
16"
2"
8½"
7½" (VARIES)
ROUNDED "W" BEAM END SECTION
NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THIS PART ARE TO FIT OVER THE STANDARD "W" BEAM SECTION.
GENERAL NOTES:
1. THIS ANCHORAGE MAY ONLY BE USED ON THE TRAILING END OF A BARRIER WHICH IS NOT EXPOSED TO VEHICULAR IMPACT.
2. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I UNLESS OTHERWISE DESIGNATED.
3. ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
4. FOR DETAILS OF HARDWARE AND COMPONENTS NOT FOUND ON THIS SHEET, SEE SHEET GR-HW.
5. DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON SHEET GR-1, FOR WOOD POSTS, AND GR-1B, FOR STEEL POSTS.
6. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FOR NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.
POST SLEEVE
5½" X 7½" WOOD TERMINAL POST, 46½" LONG
CABLE ANCHOR ASSEMBLY
8" X 8" STEEL BEARING PLATE, 5/8" THICK
4"
2½"
2" (NOM.)
3" (MAX.)
TS8" X 6" X 3/16" FOUNDATION TUBE, 5'-0" LONG
HEX NUT AND BOLT "F", 10" LONG, WITH PLAIN ROUND WASHER "F" UNDER HEAD AND NUT
DETAIL A
5½" X 7½" WOOD TERMINAL POST, 46½" LONG
TS8" X 6" X 3/16" FOUNDATION TUBE, 5'-0" LONG
HEX NUT AND BOLT "F", 8" LONG, WITH PLAIN ROUND WASHER "F" UNDER HEAD AND NUT
24" X 18" STEEL FOUNDATION TUBE SOIL PLATE, 1/4" THICK
DETAIL B
BY
REVISION
DATE
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPE 1 CABLE ANCHORAGE
(FOUNDATION TUBE)
MDOT
WORKING NUMBER
GR-3
ISSUE DATE: MAY 01, 2017
SHEET NUMBER
6212

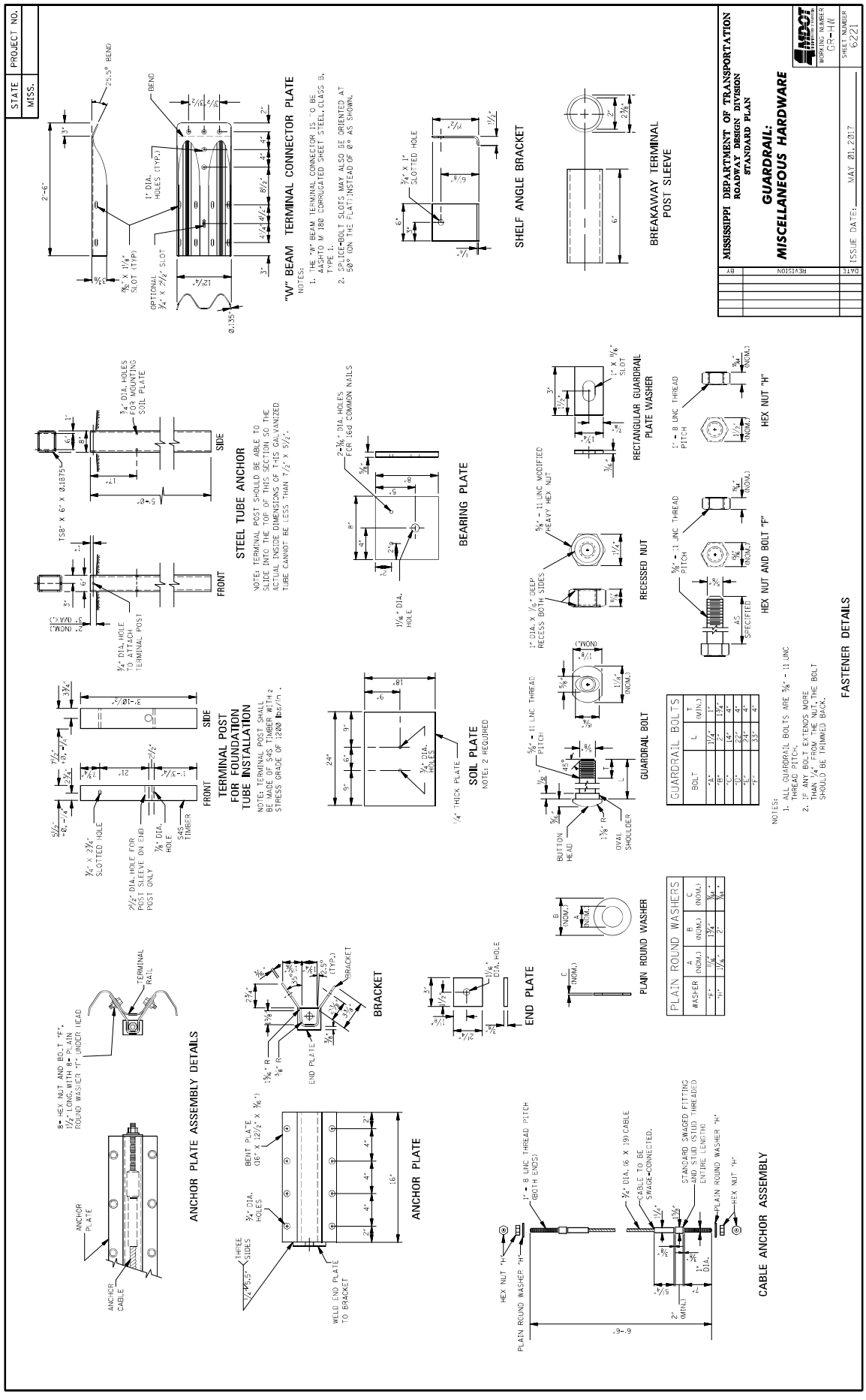

STATE PROJECT NO.
MISS.
ROUNDED "W" BEAM END SECTION
"W" BEAM TERMINAL END SECTION
CABLE ANCHOR ASSEMBLY
GUARDRAIL ANCHOR BRACKET
24" DIA. CONCRETE FOUNDATION, 3'-0" DEEP
POST 1
POST 2
PLAN
NOTE: THE "POST 2" ASSEMBLY DEPENDS ON WHETHER THE TRAILING END TERMINAL IS ATTACHED TO THE STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION AS FOLLOWS:
1. WOOD POST INSTALLATION (SHOWN)
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" WOOD BLOCKOUT, 14" LONG, AND 6" X 8" WOOD POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "D" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT.
2. STEEL POST INSTALLATION
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" MODIFIED WOOD BLOCKOUT, 14" LONG, AND W6 X 9 STEEL POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "C" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER GUARDRAIL BOLT HEAD.
GUARDRAIL BOLT "C" WITH RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT
5½" X 7½" WOOD TERMINAL POST, 5'-8" LONG
"W" BEAM TERMINAL RAIL SECTION
HEX NUT AND BOLT "F", 1½" LONG (TYP.), EIGHT (8) REQUIRED
6'-3"
6'-3" TO NEXT POST
(STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION)
GALVANIZED STEEL 16d COMMON NAIL (DRIVE NAIL AT CENTER OF POST AND BLOCKOUT AFTER BOLT IS INSTALLED)
SEE DETAIL "A"
GUARDRAIL BOLT "A" AND RECESSED NUT (TYP.), FOUR (4) REQUIRED
CABLE ANCHOR ASSEMBLY
GUARDRAIL ANCHOR BRACKET
24" DIA. CONCRETE FOUNDATION, 3'-0" DEEP
6 X 6-W6 X W6 OR 6 X 6-D6 X D6 WELDED WIRE FABRIC
ELEVATION FROM BEHIND GUARDRAIL
NOTE: ANCHOR CABLE SHALL BE TAUT.
¾" X 2¾" SLOT
2½" DIA. HOLE
SIDE
FRONT
WOOD TIMBER POST
NOTE: TERMINAL POST SHALL BE MADE OF S4S TIMBER WITH STRESS GRADE OF 1200 lb/in².
3" (MIN.)
6¼" R
30°
2⅝" X 1⅛" SLOT FOR GUARDRAIL BOLT "A" (TYP.)
12¼"
16"
2"
8½"
7½" (VARIES)
ROUNDED "W" BEAM END SECTION
NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THIS PART ARE TO FIT OVER THE STANDARD "W" BEAM SECTION.
GENERAL NOTES:
1. THIS ANCHORAGE MAY ONLY BE USED ON THE TRAILING END OF A BARRIER WHICH IS NOT EXPOSED TO VEHICULAR IMPACT.
2. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I UNLESS OTHERWISE DESIGNATED.
3. ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
4. CONCRETE FOR THE CONCRETE FOUNDATION MAY BE EITHER CLASS "B" STRUCTURAL CONCRETE OR AN APPROVED COMMERCIAL PRE-MIXED BAG CONCRETE. THE WELDED WIRE FABRIC FOR THE CONCRETE FOUNDATION SHALL CONFORM TO AASHTO M 221/M 221M AND AASHTO M 55M/M 55.
5. FOR DETAILS OF HARDWARE AND COMPONENTS NOT FOUND ON THIS SHEET, SEE SHEET GR-HW.
6. DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON SHEET GR-1, FOR WOOD POSTS, AND GR-1B, FOR STEEL POSTS.
7. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FOR NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.
POST SLEEVE
8" X 8" STEEL BEARING PLATE, ⅝" THICK
5½" X 7½" WOOD TERMINAL POST, 5'-8" LONG
CABLE ANCHOR ASSEMBLY
POLYSTYRENE SHEETING, COMPOSITION PAPER OR SOME OTHER MATERIAL SHALL BE WRAPPED AROUND THE CONCRETE EMBEDDED PORTION OF THE POST TO AID IN REMOVING BROKEN OR DAMAGED POSTS.
6 X 6-W6 X W6 OR 6 X 6-D6 X D6 WELDED WIRE FABRIC
3" (TYP.)
24"
DETAIL A
POLYSTYRENE SHEETING OR COMPOSITION PAPER
6 X 6-W6 X W6 OR 6 X 6-D6 X D6 WELDED WIRE FABRIC
8" (NOM.)
6" (NOM.)
SECTION A-A
NOTE: FORM A NOMINAL 6" X 8" SOCKET IN THE FOUNDATION TO RECEIVE THE 5½" X 7½" TIMBER POST. FORM HOLE WITH ½" THICK POLYSTYRENE FOAM SHEETING OR WRAP THE TIMBER POST IN A DOUBLE LAYER OF COMPOSITION PAPER. THE LAYER OF SHEETING OR PAPER WILL AID IN REMOVING A DAMAGED POST.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPE 1 CABLE ANCHORAGE
(CONCRETE FOOTING)
ISSUE DATE: MAY 01, 2017
WORKING NUMBER GR-34
SHEET NUMBER 6213

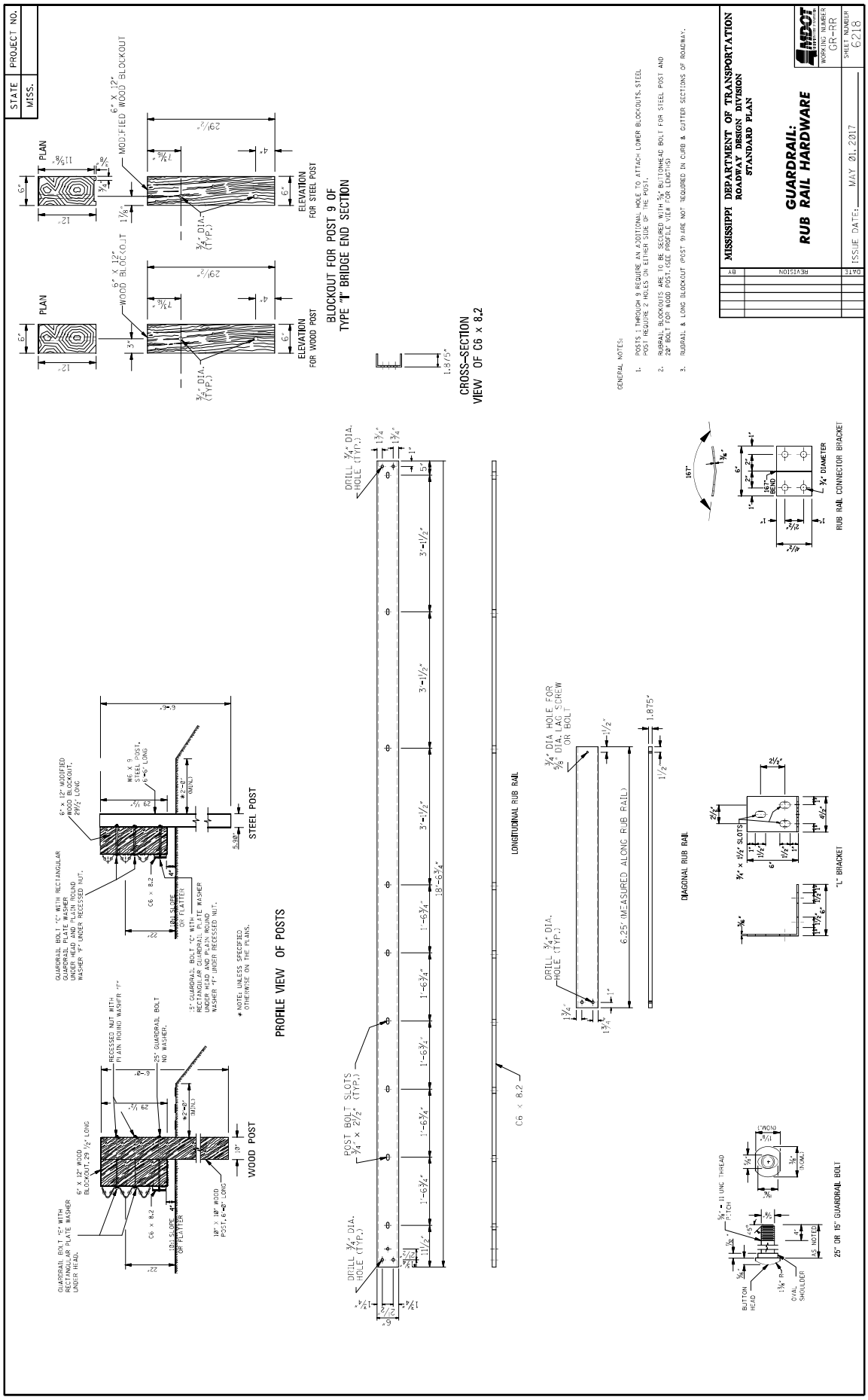

STATE PROJECT NO.
MISS.
** NOTE: IF FORESLOPE, SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.
SECTION A–A
SECTION B–B
NORMAL SHOULDER SLOPE
AS SHOWN ON PLANS
DIVIDED HIGHWAY WITH BARRIER INSIDE CLEAR ZONE OF OPPOSING TRAFFIC
* NOTE: THE 25° LINE IS USED TO DETERMINE THE LIMITS OF MEDIAN BARRIER AS SHOWN.
DIVIDED HIGHWAY WITH BARRIER OUTSIDE CLEAR ZONE OF OPPOSING TRAFFIC
GENERAL NOTES:
1. VALUES FOR "A" AND "B" WILL BE SHOWN ELSEWHERE ON THE PLANS.
2. FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
3. GUARDRAIL SECTIONS ARE TO BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW NEAREST THE GUARDRAIL FACE.
4. THE OVERALL LENGTH OF GUARDRAIL IS MEASURED FROM THE CONNECTING END ON THE BRIDGE.
5. IN THE ABSENCE OF A BRIDGE END PAVEMENT RAIL, CONNECT THE BRIDGE END SECTION TO THE BRIDGE RAIL (SEE WK. NOS. GR-2 THRU GR-2G). THE SHOULDER WIDTH AT THE BRIDGE END PAVEMENT RAIL OR BRIDGE END RAIL SHALL BE SUFFICIENTLY WIDE TO PROVIDE A MINIMUM OF 2'-0" BEHIND THE BACK OF POST BEFORE THE SLOPE BREAK (HINGEPOINT).
6. TYPE, DETAILS AND LIMITS OF GUARDRAIL BRIDGE END SECTION WILL BE SHOWN ELSEWHERE ON THE PLANS.
7. W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.
8. FOR DIVIDED HIGHWAYS WITH THREE (3) OR MORE LANES IN ONE DIRECTION, THE MEDIAN BARRIER MAY REQUIRE A TAPER RATE OTHER THAN 25:1.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPICAL INSTALLATION AT BRIDGE APPROACHES FOR DIVIDED HIGHWAYS
MDOT
WORKING NUMBER GR-4
ISSUE DATE: MAY 01, 2017
SHEET NUMBER 6214

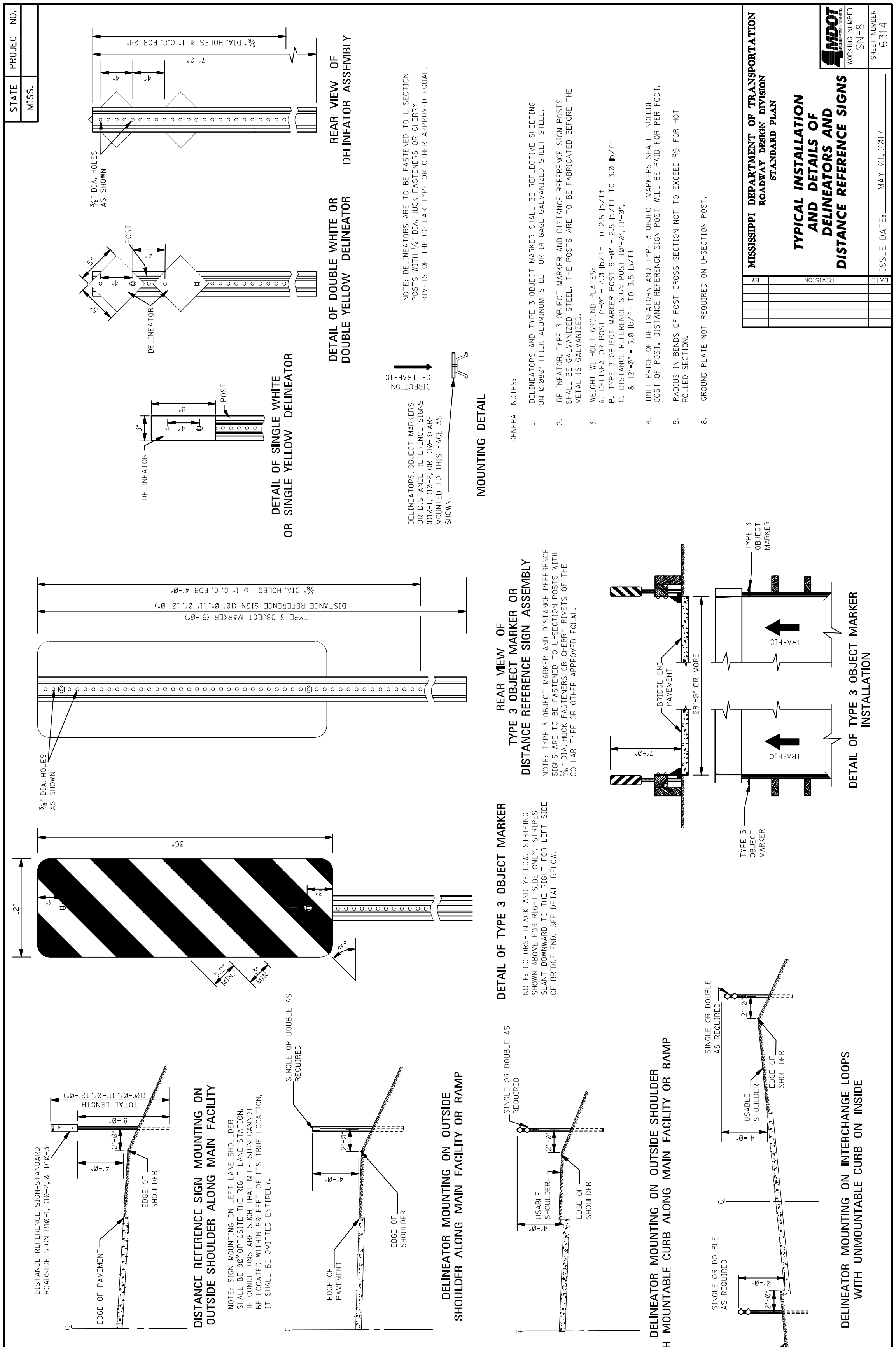

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPICAL INSTALLATION
AT BRIDGE APPROACHES
FOR 2-LANE 2-WAY
HIGHWAY
WORKING NUMBER GR-4A
SHEET NUMBER 6215
ISSUE DATE: MAY 01, 2017
BY REVISION DATE
* NOTE: IF FORESLOPE SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.
DETAIL OF GUARDRAIL SECTION LAPS
GENERAL NOTES:
1. VALUES FOR "A", "B", "C" AND "D" WILL BE SHOWN ELSEWHERE ON THE PLANS.
2. FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
3. GUARDRAIL SECTIONS ARE TO BE LAPPED IN THE DIRECTION OF TRAFFIC APPROACHING THE BRIDGE.
4. THE OVERALL LENGTH OF GUARDRAIL IS MEASURED FROM THE CONNECTING END ON THE BRIDGE.
5. IN THE ABSENCE OF A BRIDGE END PAVEMENT RAIL, CONNECT THE BRIDGE END SECTION TO THE BRIDGE RAIL (SEE MS-GR-2 THRU GR-2C). THE SHOULDER WIDTH AT THE BRIDGE END PROVIDED A BRIDGE END RAIL SHALL BE EQUAL TO OR GREATER THAN THE MINIMUM OF 2'-0" BEHIND THE BACK OF POST BEFORE THE SLOPE BREAK (HINGEPOINT).
6. TYPE DETAILS AND LIMITS OF GUARDRAIL BRIDGE END SECTION WILL BE SHOWN ELSEWHERE ON THE PLANS.
7. "W" = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.
PLAN
SECTION A–A
SECTION B–B
NORMAL GUARDRAIL INSTALLATION
TERMINAL SECTION
BRIDGE END SECTION
TANGENT
30:1 TAPER
37'-6" TYPICAL
75'
25'-0"
12'-6"
18'-1½"
150' MINIMUM TRANSITION
* VARIABLE
NORMAL SHOULDER
ETL
20:1 SLOPE RELATIVE TO LONGITUDINAL GRADIENT FOR HIGHWAY CENTERLINE
GUARDRAIL FACE ALINEMENT ON BRIDGE
BRIDGE END PAVEMENT
BRIDGE
SEE NOTE 5
BRIDGE END PAVT. RAIL
"A"
"B"
"C"
"D"
"W"
VARIES
NORMAL SHOULDER SLOPE
AS SHOWN ON THE PLANS
6:1
3:1
2'-0"


STATE MISS.
PROJECT NO.
SECTION A–A
SECTION B–B
SECTION C–C
SECTION D–D
FOR OBSTACLES 5' TO 17' FROM NORMAL SHOULDER
SECTION D–D
FOR OBSTACLES 17' OR MORE FROM NORMAL SHOULDER
SECTION E–E
TYPICAL INSTALLATION FOR CULVERT
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE STEEPER THAN 10:1
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE 10:1 OR FLATTER
DETAIL OF POST INSTALLATION WITH COVER LESS THAN NORMAL POST LENGTH
GENERAL NOTES:
1. FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
2. GUARDRAIL SECTIONS TO BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW NEAREST THE GUARDRAIL FACE.
3. PAY LIMITS FOR NORMAL GUARDRAIL INSTALLATION WILL BE THE TOTAL LENGTH LESS THE LENGTHS OF END TERMINALS.
4. W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPICAL INSTALLATION FOR ROADSIDE HAZARDS ON DIVIDED HIGHWAYS
ISSUE DATE: MAY 01, 2017
WORKING NUMBER GR-4B
SHEET NUMBER 6216


MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
TYPICAL INSTALLATION FOR ROADSIDE HAZARDS ON 2-LANE, 2-WAY HIGHWAYS
ISSUE DATE: MAY 01, 2017
WORKING NUMBER GR-4C
SHEET NUMBER 6217
STATE MISS.
PROJECT NO.
TYPICAL INSTALLATION FOR CULVERT
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE STEEPER THAN 10:1
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE 10:1 OR FLATTER
DETAIL OF POST INSTALLATION WITH COVER LESS THAN NORMAL POST LENGTH
SECTION A–A
SECTION B–B
SECTION C–C
SECTION D–D
SECTION E–E
GENERAL NOTES:


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
MISCELLANEOUS HARDWARE
WORKING NUMBER GR-HW
SHEET NUMBER 6221
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
"W" BEAM TERMINAL CONNECTOR PLATE
NOTES:
1. THE "W" BEAM TERMINAL CONNECTOR IS TO BE AASHTO M 180 CORRUGATED SHEET STEEL, CLASS B, TYPE I.
2. SPLICE-BOLT SLOTS MAY ALSO BE ORIENTED AT 50° (ON THE FLAT) INSTEAD OF 0° AS SHOWN.
SHELF ANGLE BRACKET
BREAKAWAY TERMINAL POST SLEEVE
STEEL TUBE ANCHOR
NOTE: TERMINAL POST SHOULD BE ABLE TO SLIDE INTO THE TOP OF THIS SECTION SO THE ACTUAL INSIDE DIMENSIONS OF TUBE CANNOT BE LESS THAN 7 1/2" X 5 1/2".
BEARING PLATE
TERMINAL POST FOR FOUNDATION TUBE INSTALLATION
NOTE: TERMINAL POST SHALL BE MADE OF S4S TIMBER WITH A STRESS GRADE OF 1200 lbs/in².
SOIL PLATE
NOTE: 2 REQUIRED
RECTANGULAR GUARDRAIL PLATE WASHER
HEX NUT "H"
RECESSED NUT
HEX NUT AND BOLT "F"
GUARDRAIL BOLT
GUARDRAIL BOLTS
PLAIN ROUND WASHERS
FASTENER DETAILS
NOTES:
1. ALL GUARDRAIL BOLTS ARE 5/8" - 11 UNC THREAD PITCH.
2. IF ANY BOLT EXTENDS MORE THAN 1/4" FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.
ANCHOR PLATE ASSEMBLY DETAILS
BRACKET
END PLATE
CABLE ANCHOR ASSEMBLY
ANCHOR PLATE


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
GUARDRAIL:
RUB RAIL HARDWARE
WORKING NUMBER GR-RR
SHEET NUMBER 6218
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
GENERAL NOTES:
1. POSTS 1 THROUGH 9 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS. STEEL POST REQUIRE 2 HOLES ON EITHER SIDE OF THE POST.
2. RUBRAIL BLOCKOUTS ARE TO BE SECURED WITH ¾" BUTTONHEAD BOLT FOR STEEL POST AND 20" BOLT FOR WOOD POST. (SEE PROFILE VIEW FOR LENGTHS)
3. RUBRAIL & LONG BLOCKOUT (POST 9) ARE NOT REQUIRED IN CURB & GUTTER SECTIONS OF ROADWAY.
BLOCKOUT FOR POST 9 OF TYPE "T" BRIDGE END SECTION
PLAN
ELEVATION FOR WOOD POST
ELEVATION FOR STEEL POST
6" X 12" MODIFIED WOOD BLOCKOUT
5" X 12" WOOD BLOCKOUT
¾" DIA. (TYP.)
CROSS-SECTION VIEW OF C6 x 8.2
PROFILE VIEW OF POSTS
WOOD POST
STEEL POST
GUARDRAIL BOLT "C" WITH RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT.
6" X 12" MODIFIED WOOD BLOCKOUT, 29½" LONG
W6 X 9 STEEL POST, 4'-6" LONG
C6 x 8.2
10d SLOPE OR FLATTER
RECESSED NUT WITH PLAIN ROUND WASHER "F"
25' GUARDRAIL BOLT NO WASHER
6" X 12" WOOD BLOCKOUT, 29½" LONG
10" x 10" WOOD POST, 6'-0" LONG
GUARDRAIL BOLT "C" WITH RECTANGULAR PLATE WASHER UNDER HEAD
* NOTE! UNLESS SPECIFIED OTHERWISE ON THE PLANS.
LONGITUDINAL RUB RAIL
POST BOLT SLOTS ¾" x 2½" (TYP.)
DRILL ¾" DIA. HOLE (TYP.)
C6 x 8.2
DIAGONAL RUB RAIL
¾" DIA HOLE FOR ⅝" DIA. LAG SCREW OR BOLT
6.25" (MEASURED ALONG RUB RAIL)
RUB RAIL CONNECTOR BRACKET
¾" DIAMETER
16°
"L" BRACKET
¾" x 1½" SLOTS
¾" - 11 UNC THREAD
BUTTON HEAD
OVAL SHOULDER
AS NOTED
25' OR 15' GUARDRAIL BOLT


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TYPICAL INSTALLATION AND DETAILS OF DELINEATORS AND DISTANCE REFERENCE SIGNS
ISSUE DATE: MAY 01, 2017
WORKING NUMBER SN-8
SHEET NUMBER 6314
DATE
REVISION
BY
REAR VIEW OF DELINEATOR ASSEMBLY
DETAIL OF DOUBLE WHITE OR DOUBLE YELLOW DELINEATOR
DETAIL OF SINGLE WHITE OR SINGLE YELLOW DELINEATOR
NOTE: DELINEATORS ARE TO BE FASTENED TO U-SECTION POSTS WITH 1/4" DIA. HUCK FASTENERS OR CHERRY RIVETS OF THE COLLAR TYPE OR OTHER APPROVED EQUAL.
DELINEATORS, OBJECT MARKERS OR DISTANCE REFERENCE SIGNS (D10-1, D10-2, OR D10-3) ARE MOUNTED TO THIS FACE AS SHOWN.
DIRECTION OF TRAFFIC
MOUNTING DETAIL
GENERAL NOTES:
1. DELINEATORS AND TYPE 3 OBJECT MARKER SHALL BE REFLECTIVE SHEETING ON 0.080" THICK ALUMINUM SHEET OR 14 GAGE GALVANIZED SHEET STEEL.
2. DELINEATOR, TYPE 3 OBJECT MARKER AND DISTANCE REFERENCE SIGN POSTS SHALL BE GALVANIZED STEEL. THE POSTS ARE TO BE FABRICATED BEFORE THE METAL IS GALVANIZED.
3. WEIGHT WITHOUT GROUND PLATES:
A. DELINEATOR POST 7'-0" - 2.0 lb/ft TO 2.5 lb/ft
B. TYPE 3 OBJECT MARKER POST 9'-0" - 2.5 lb/ft TO 3.0 lb/ft
C. DISTANCE REFERENCE SIGN POST 10'-0", 11'-0", & 12'-0" - 3.0 lb/ft TO 3.5 lb/ft
4. UNIT PRICE OF DELINEATORS AND TYPE 3 OBJECT MARKERS SHALL INCLUDE COST OF POST. DISTANCE REFERENCE SIGN POST WILL BE PAID FOR PER FOOT.
5. RADIUS IN BENDS OF POST CROSS SECTION NOT TO EXCEED 3/16" FOR HOT ROLLED SECTION.
6. GROUND PLATE NOT REQUIRED ON U-SECTION POST.
REAR VIEW OF TYPE 3 OBJECT MARKER OR DISTANCE REFERENCE SIGN ASSEMBLY
NOTE: TYPE 3 OBJECT MARKER AND DISTANCE REFERENCE SIGNS ARE TO BE FASTENED TO U-SECTION POSTS WITH 3/16" DIA. HUCK FASTENERS OR CHERRY RIVETS OF THE COLLAR TYPE OR OTHER APPROVED EQUAL.
TYPE 3 OBJECT MARKER (9'-0")
DISTANCE REFERENCE SIGN (10'-0", 11'-0", 12'-0")
DETAIL OF TYPE 3 OBJECT MARKER
NOTE: COLORS- BLACK AND YELLOW. STRIPING SHOWN ABOVE FOR RIGHT SIDE ONLY. STRIPES SLANT DOWNWARD TO THE RIGHT FOR LEFT SIDE OF BRIDGE END. SEE DETAIL BELOW.
DETAIL OF TYPE 3 OBJECT MARKER INSTALLATION
TRAFFIC
BRIDGE END PAVEMENT
28'-0" OR MORE
TYPE 3 OBJECT MARKER
DISTANCE REFERENCE SIGN MOUNTING ON OUTSIDE SHOULDER ALONG MAIN FACILITY
DISTANCE REFERENCE SIGN-STANDARD ROADSIDE SIGN D10-1, D10-2, & D10-3
TOTAL LENGTH (10'-0", 11'-0", 12'-0")
NOTE: SIGN MOUNTING ON LEFT LANE SHOULDER SHALL BE 90° OPPOSITE THE RIGHT LANE STATION. IF CONDITIONS ARE SUCH THAT MILE SIGN CANNOT BE LOCATED WITHIN 50 FEET OF ITS TRUE LOCATION, IT SHALL BE OMITTED ENTIRELY.
EDGE OF PAVEMENT
EDGE OF SHOULDER
DELINEATOR MOUNTING ON OUTSIDE SHOULDER ALONG MAIN FACILITY OR RAMP
SINGLE OR DOUBLE AS REQUIRED
DELINEATOR MOUNTING ON OUTSIDE SHOULDER WITH MOUNTABLE CURB ALONG MAIN FACILITY OR RAMP
USABLE SHOULDER
DELINEATOR MOUNTING ON INTERCHANGE LOOPS WITH UNMOUNTABLE CURB ON INSIDE
UNUSABLE SHOULDER

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 3599 **CODE: (SP)**

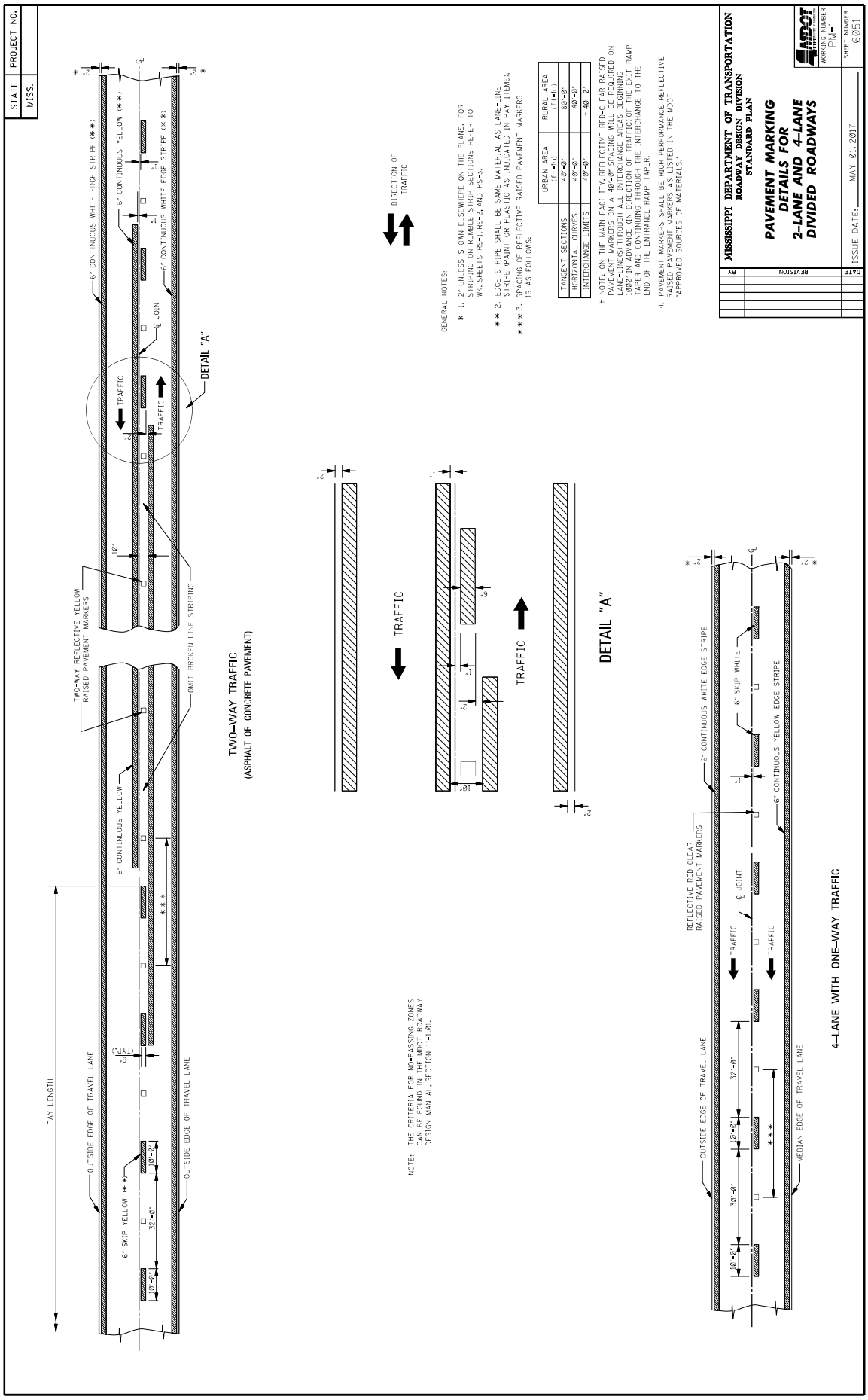
DATE: **08/11/2021**

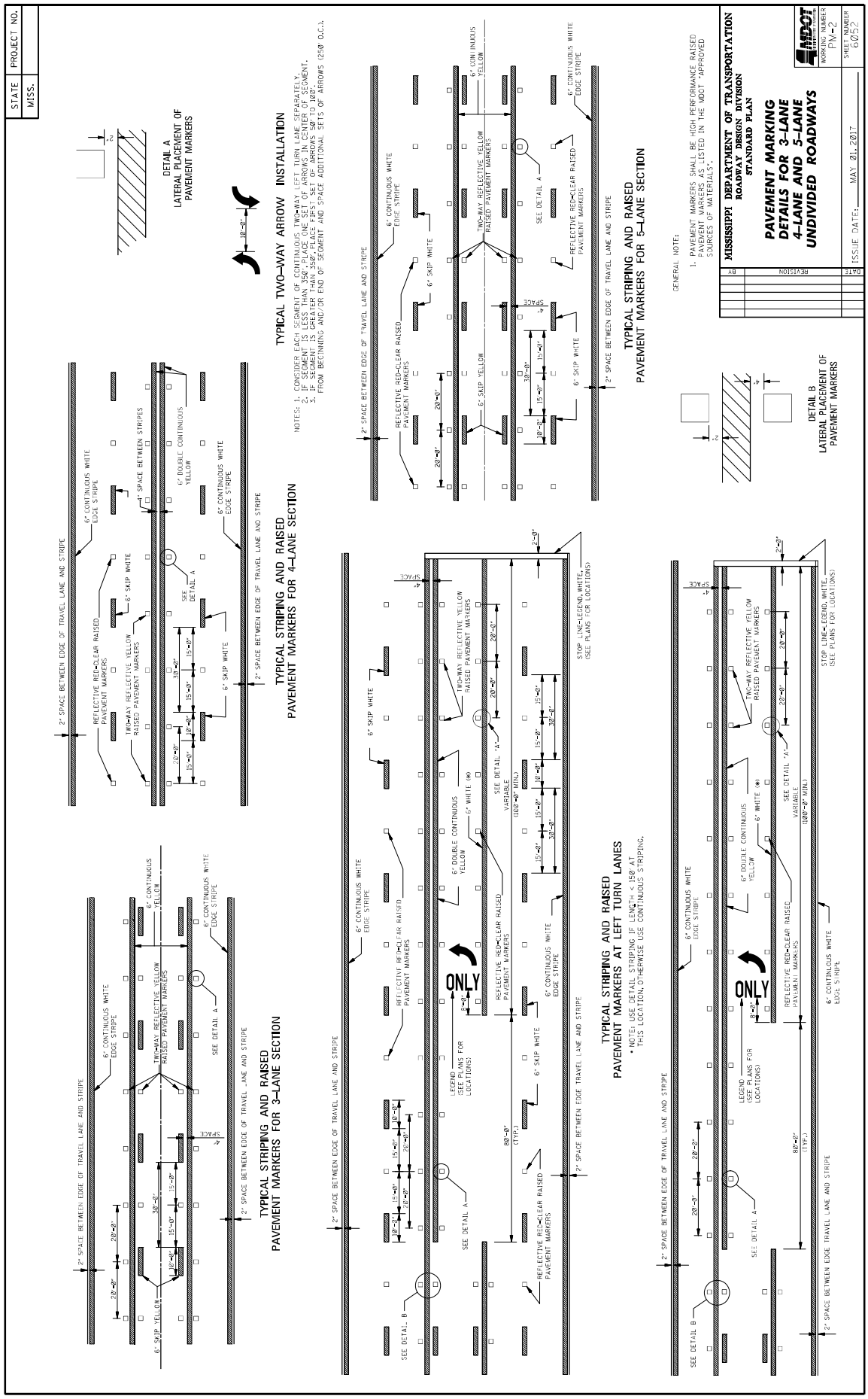
SUBJECT: **Standard Drawings**

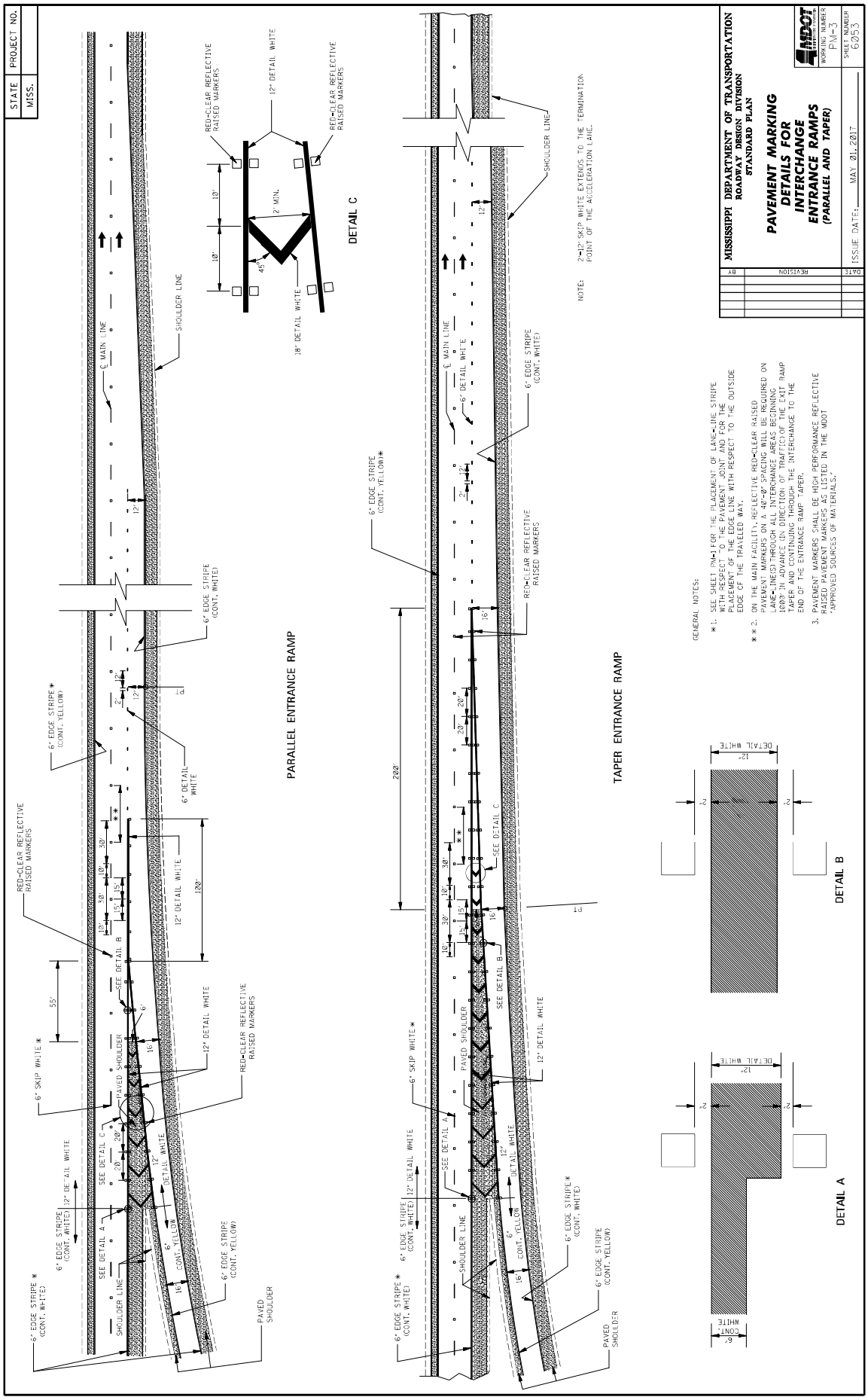
Standard Drawings attached hereto shall govern appropriate items of required work.

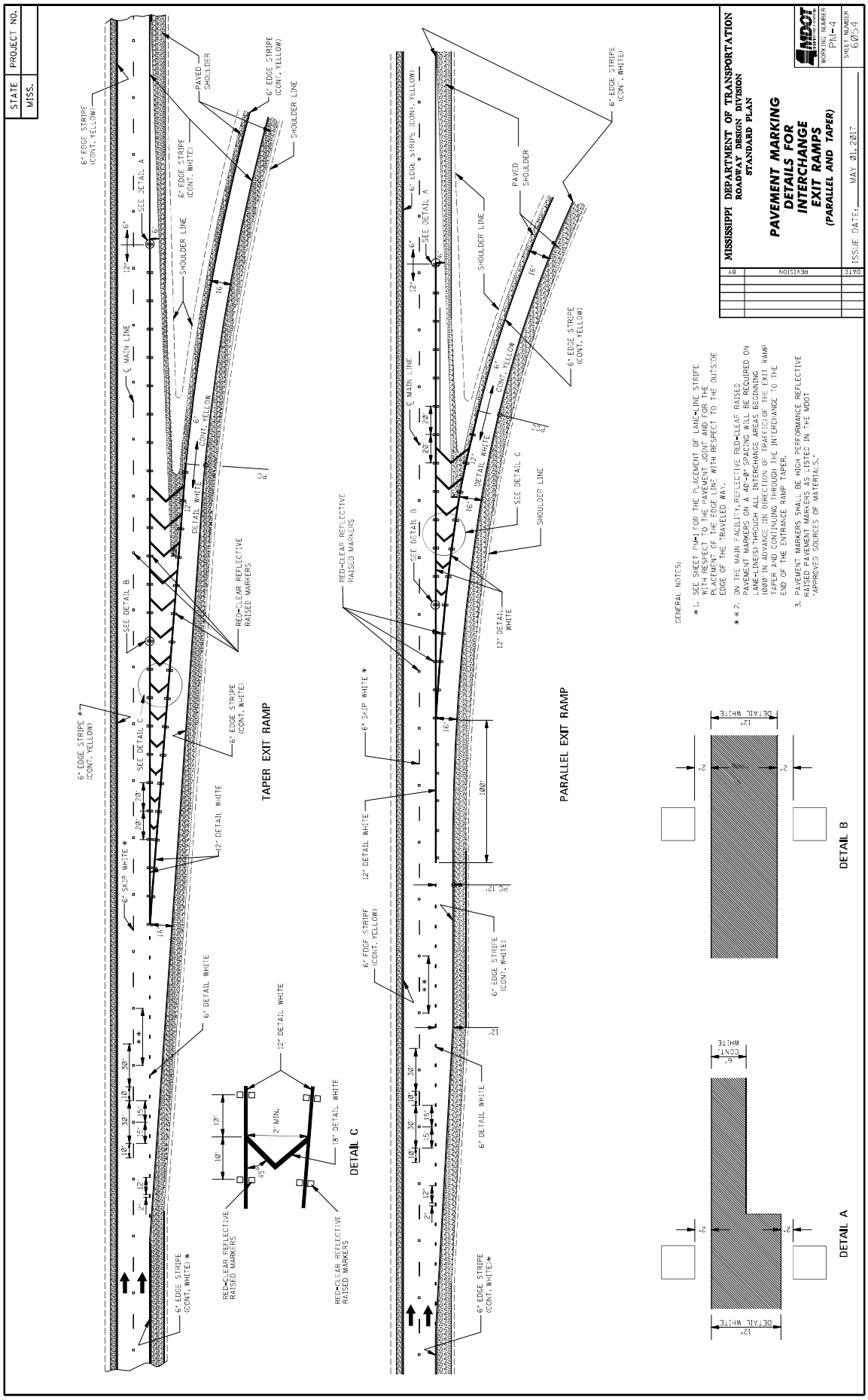
Larger copies of Standard Drawings may be purchased from:

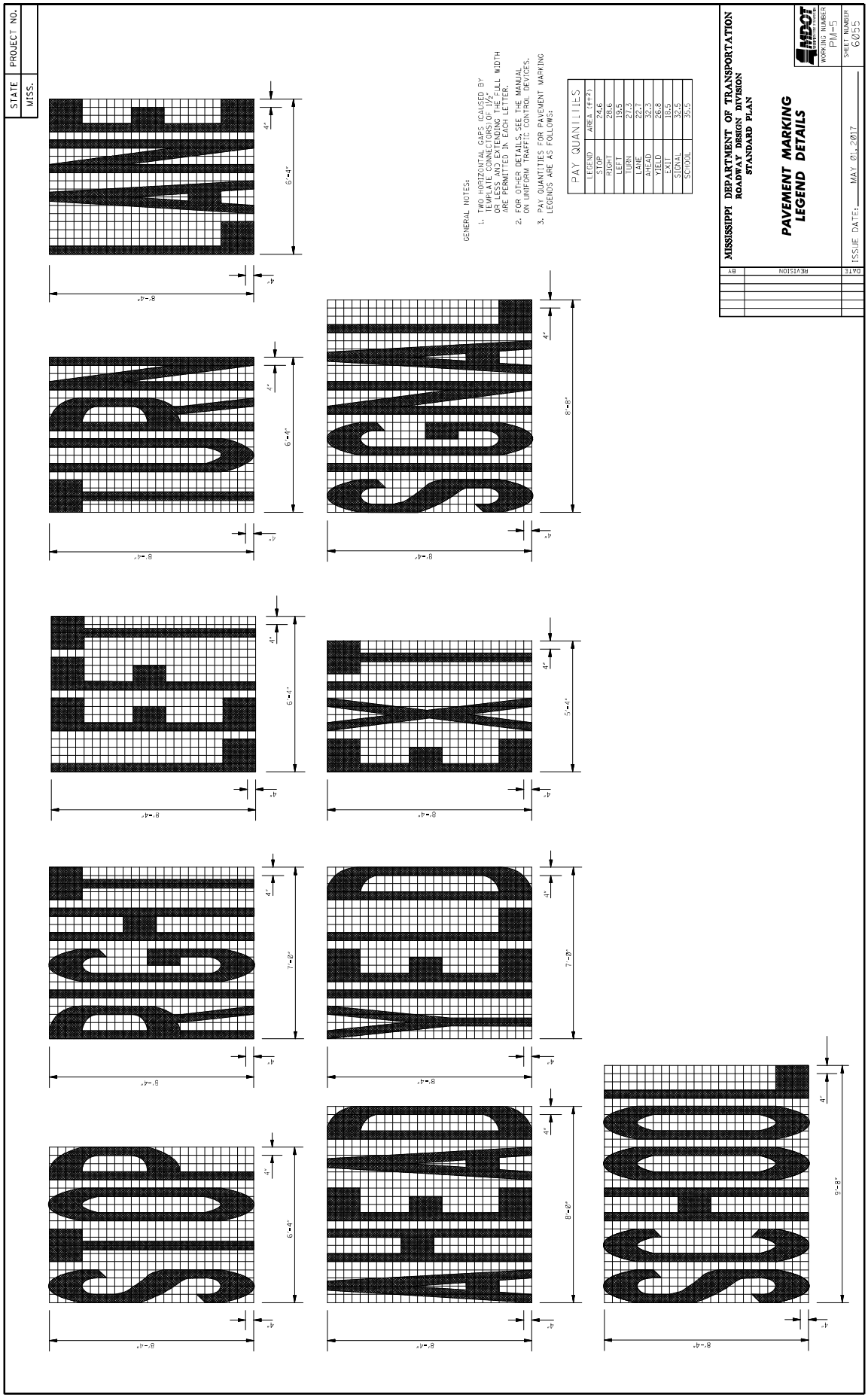
MDOT Plans Print Shop
MDOT Shop Complex, Building C, Room 114
2567 North West Street
P.O. Box 1850
Jackson, MS 39215-1850
Telephone: (601) 359-7460
or FAX: (601) 359-7461
or e-mail: plans@mdot.state.ms.us

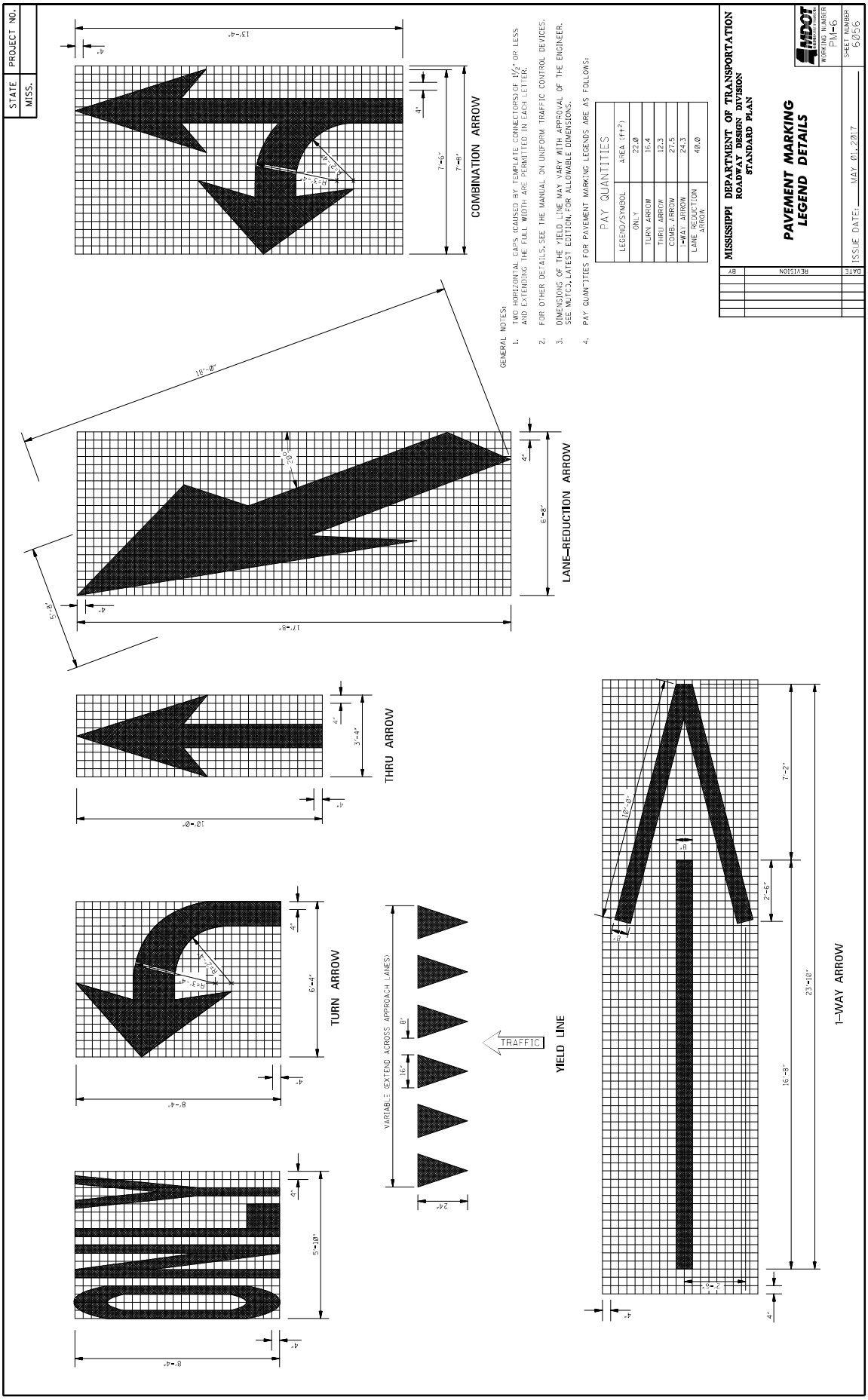

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING DETAILS FOR 2-LANE AND 4-LANE DIVIDED ROADWAYS
WORKING NUMBER PM-_
SHEET NUMBER 6051
ISSUE DATE: MAY 01, 2017
BY REVISION DATE
TWO-WAY REFLECTIVE YELLOW RAISED PAVEMENT MARKERS
6" CONTINUOUS WHITE EDGE STRIPE (* * *)
6" CONTINUOUS YELLOW (* *)
6" CONTINUOUS WHITE EDGE STRIPE (* * *)
℄ JOINT
DETAIL "A"
TRAFFIC
10'
6" CONTINUOUS YELLOW
6" SKIP YELLOW (* *)
30'-0"
10'-0"
OUTSIDE EDGE OF TRAVEL LANE
PAY LENGTH
DWIT BROKEN LINE STRIPING
TWO-WAY TRAFFIC
(ASPHALT OR CONCRETE PAVEMENT)
DIRECTION OF TRAFFIC
GENERAL NOTES:
* 1. 2" UNLESS SHOWN ELSEWHERE ON THE PLANS. FOR STRIPING ON RUMBLE STRIP SECTIONS REFER TO Wk. 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:
URBAN AREA (ft-in) | RURAL AREA (ft-in)
TANGENT SECTIONS 40'-0" 80'-0"
HORIZONTAL CURVES 40'-0" 40'-0"
INTERCHANGE LIMITS 40'-0" † 40'-0"
† NOTE: ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE LINES THROUGHOUT ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
4. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."
NOTE: THE CRITERIA FOR NO-PASSING ZONES CAN BE FOUND IN THE MDOT ROADWAY DESIGN MANUAL, SECTION 1-1.01.
TRAFFIC
DETAIL "A"
REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS
6" CONTINUOUS WHITE EDGE STRIPE
6" SKIP WHITE
6" CONTINUOUS YELLOW EDGE STRIPE
OUTSIDE EDGE OF TRAVEL LANE
MEDIAN EDGE OF TRAVEL LANE
4-LANE WITH ONE-WAY TRAFFIC

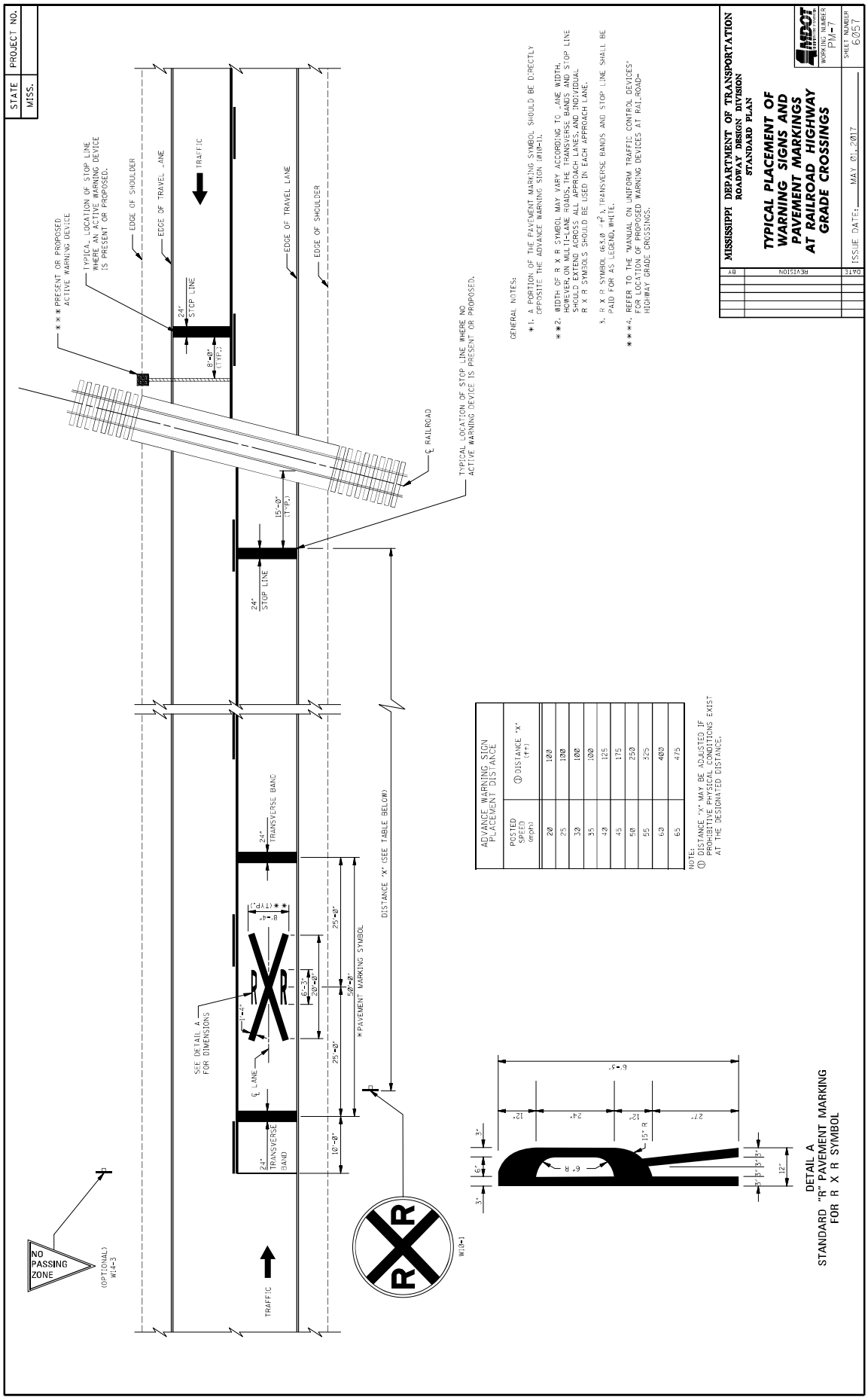

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING
DETAILS FOR 3-LANE
4-LANE AND 5-LANE
UNDIVIDED ROADWAYS
WORKING NUMBER FM-2
SHEET NUMBER 6052
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTE:
1. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS".
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 3-LANE SECTION
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 4-LANE SECTION
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 5-LANE SECTION
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS AT LEFT TURN LANES
* NOTE: USE DETAIL STRIPING IF LENGTH < 150' AT THIS LOCATION, OTHERWISE USE CONTINUOUS STRIPING.
TYPICAL TWO-WAY ARROW INSTALLATION
NOTES: 1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.
2. IF SEGMENT IS LESS THAN 350', PLACE FIRST SET OF ARROWS AT MIDPOINT OF SEGMENT.
3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50' TO 100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS (250' O.C.).
DETAIL A LATERAL PLACEMENT OF PAVEMENT MARKERS
DETAIL B LATERAL PLACEMENT OF PAVEMENT MARKERS

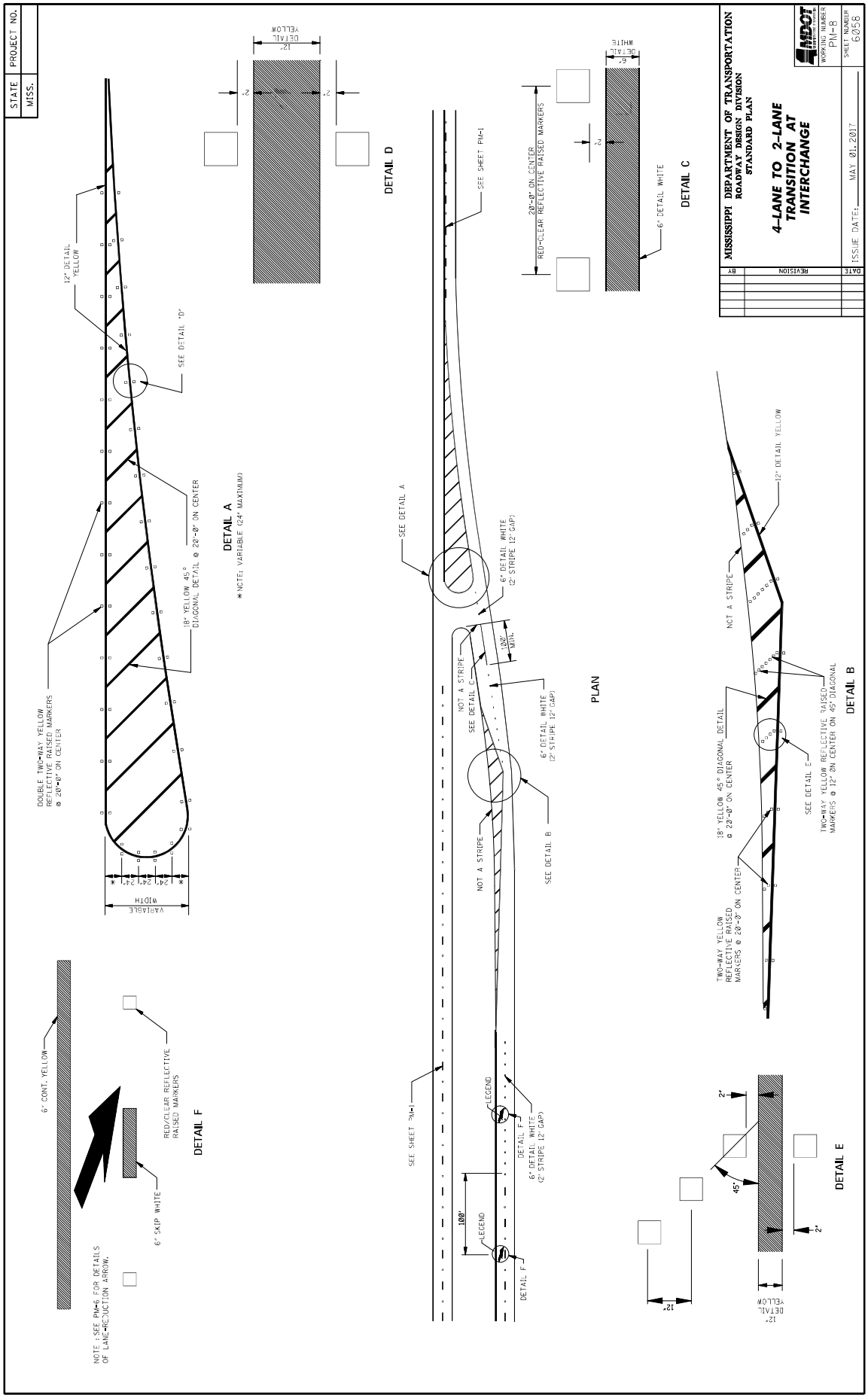

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING DETAILS FOR INTERCHANGE ENTRANCE RAMPS (PARALLEL AND TAPER)
WORKING NUMBER FM-3
SHEET NUMBER 6055
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
PARALLEL ENTRANCE RAMP
TAPER ENTRANCE RAMP
DETAIL A
DETAIL B
DETAIL C
GENERAL NOTES:
*1. SEE SHEET FM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
**2. ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."
NOTE: 2-12" SKIP WHITE EXTENDS TO THE TERMINATION POINT OF THE ACCELERATION LANE.

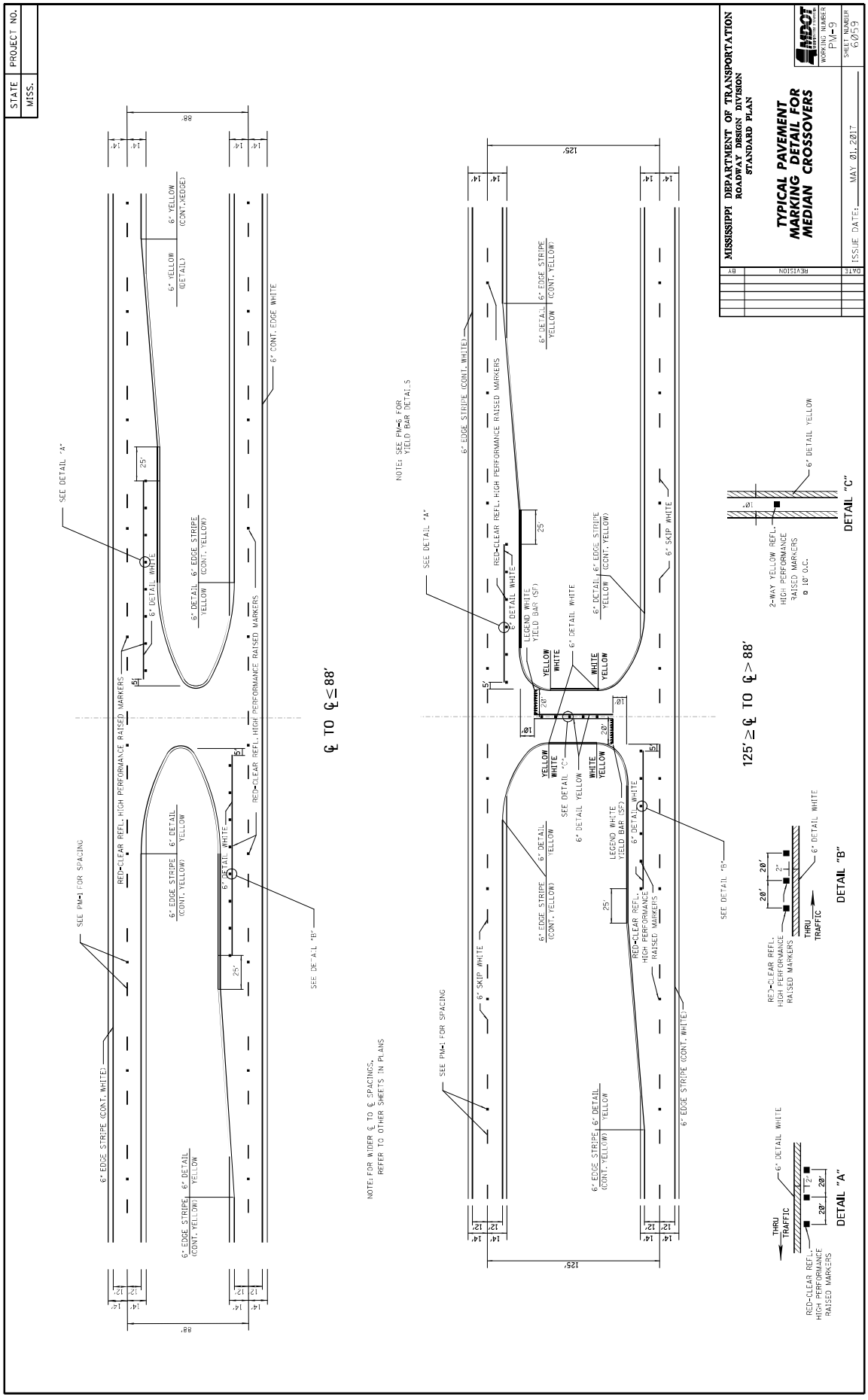

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING DETAILS FOR INTERCHANGE EXIT RAMPS
(PARALLEL AND TAPER)
WORKING NUMBER PIN-4
SHEET NUMBER 6054
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
TAPER EXIT RAMP
PARALLEL EXIT RAMP
DETAIL A
DETAIL B
DETAIL C
GENERAL NOTES:
*1: SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND/OR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
**2: ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."

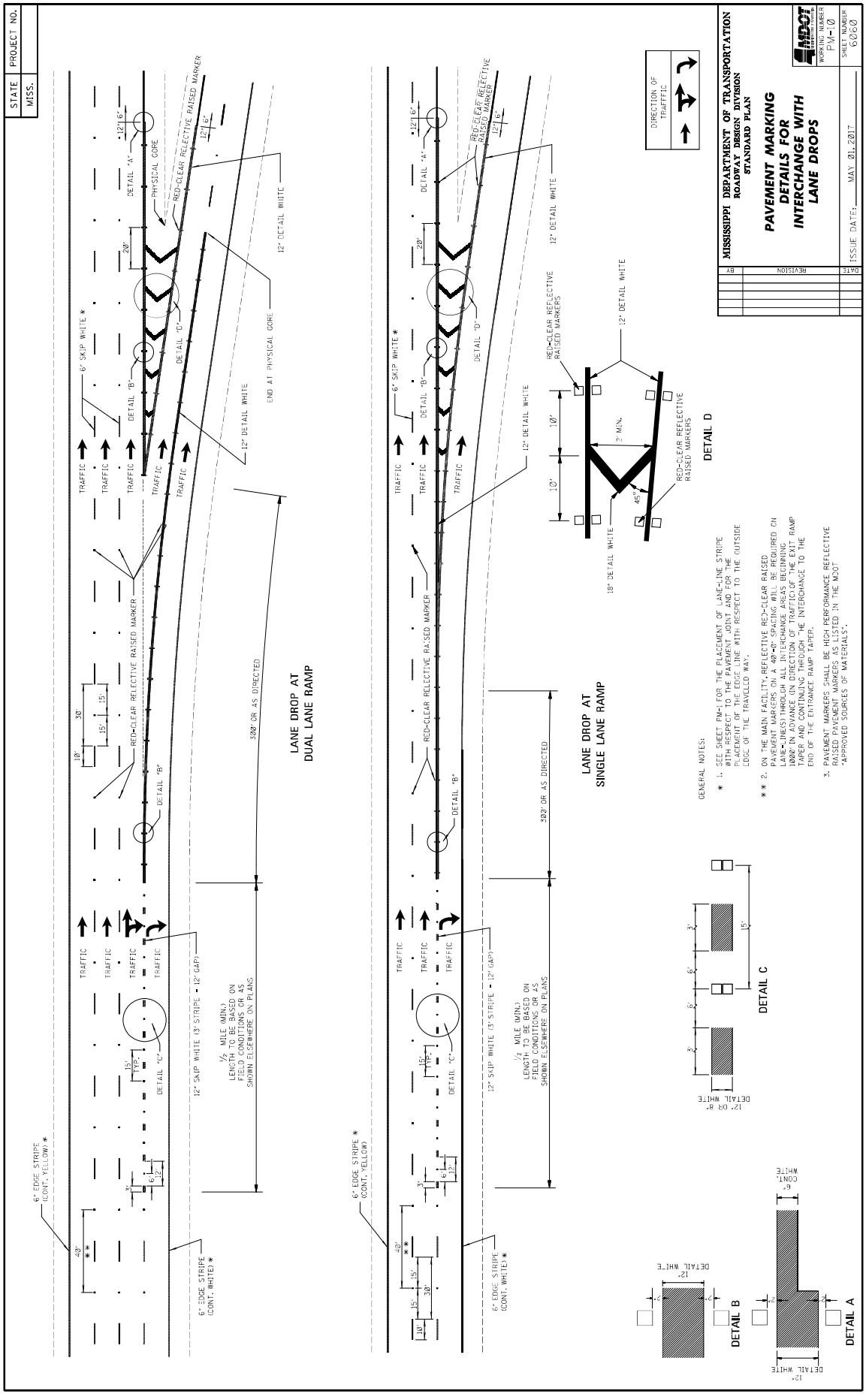

STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING
LEGEND DETAILS
WORKING NUMBER
PM-5
SHEET NUMBER
6055
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
GENERAL NOTES:
1. TWO HORIZONTAL GAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1½" OR LESS AND EXTENDING THE FULL WIDTH ARE PERMITTED IN EACH LETTER.
2. FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. PAY QUANTITIES FOR PAVEMENT MARKING LEGENDS ARE AS FOLLOWS:
PAY QUANTITIES
LEGEND
AREA (SF)
STOP
24.6
RIGHT
28.6
LEFT
19.5
TURN
27.3
LANE
22.7
AHEAD
32.3
YIELD
26.8
EXIT
18.5
SIGNAL
32.5
SCHOOL
35.5

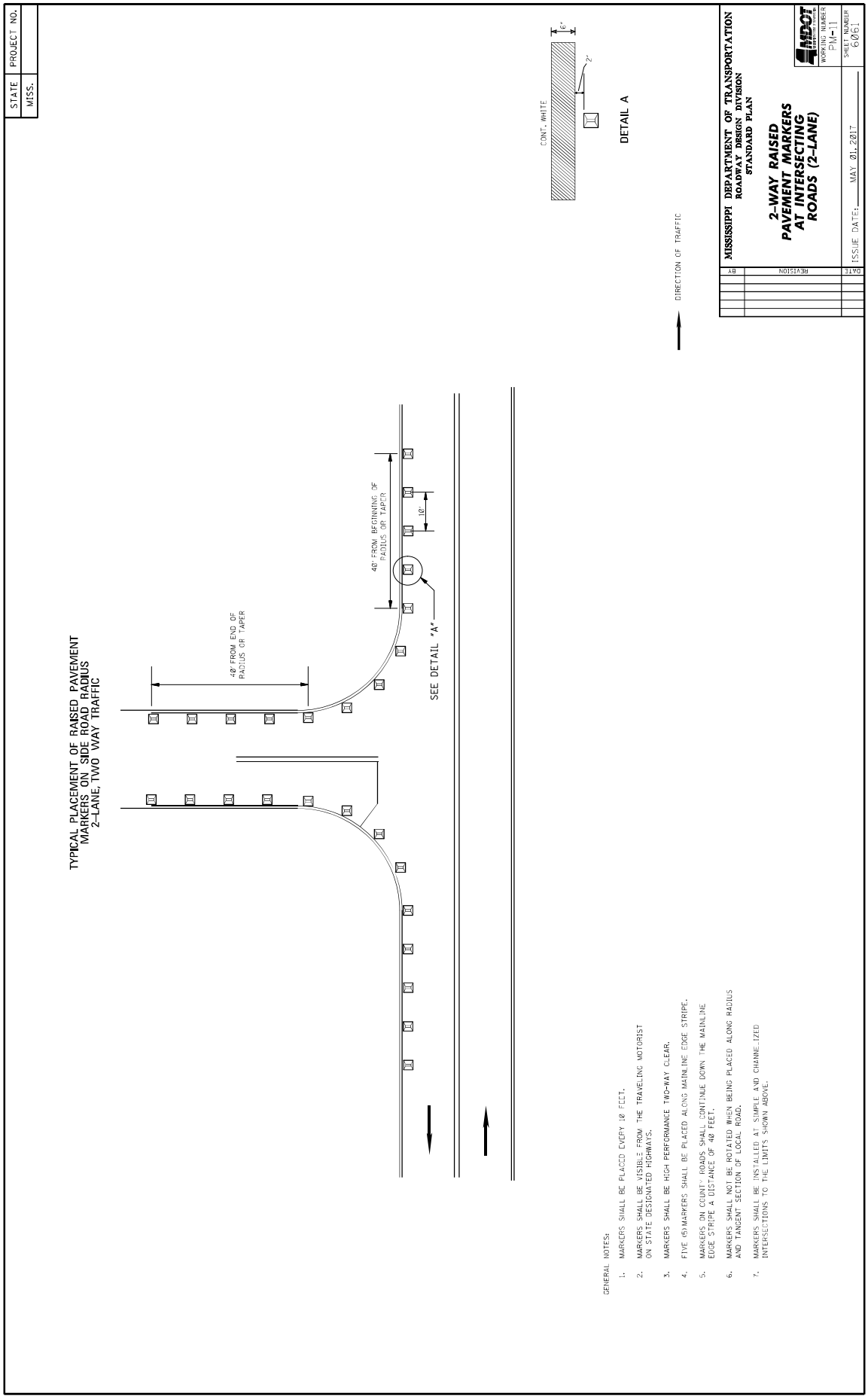

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING LEGEND DETAILS
WORKING NUMBER PM-6
SHEET NUMBER 6056
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
GENERAL NOTES:
1. TWO HORIZONTAL CAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1½" OR LESS AND EXTENDING THE FULL WIDTH ARE PERMITTED IN EACH LETTER.
2. FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. DIMENSIONS OF THE YIELD LINE MAY VARY WITH APPROVAL OF THE ENGINEER. SEE MUTCD, LATEST EDITION, FOR ALLOWABLE DIMENSIONS.
4. PAY QUANTITIES FOR PAVEMENT MARKING LEGENDS ARE AS FOLLOWS:
PAY QUANTITIES
LEGEND/SYMBOL
AREA (ft²)
ONLY 22.0
TURN ARROW 16.4
THRU ARROW 12.3
COMB. ARROW 27.5
1-WAY ARROW 24.3
LANE REDUCTION ARROW 40.0
COMBINATION ARROW
LANE-REDUCTION ARROW
THRU ARROW
TURN ARROW
YIELD LINE
TRAFFIC
VARIABLE (EXTEND ACROSS APPROACH LANES)
1-WAY ARROW

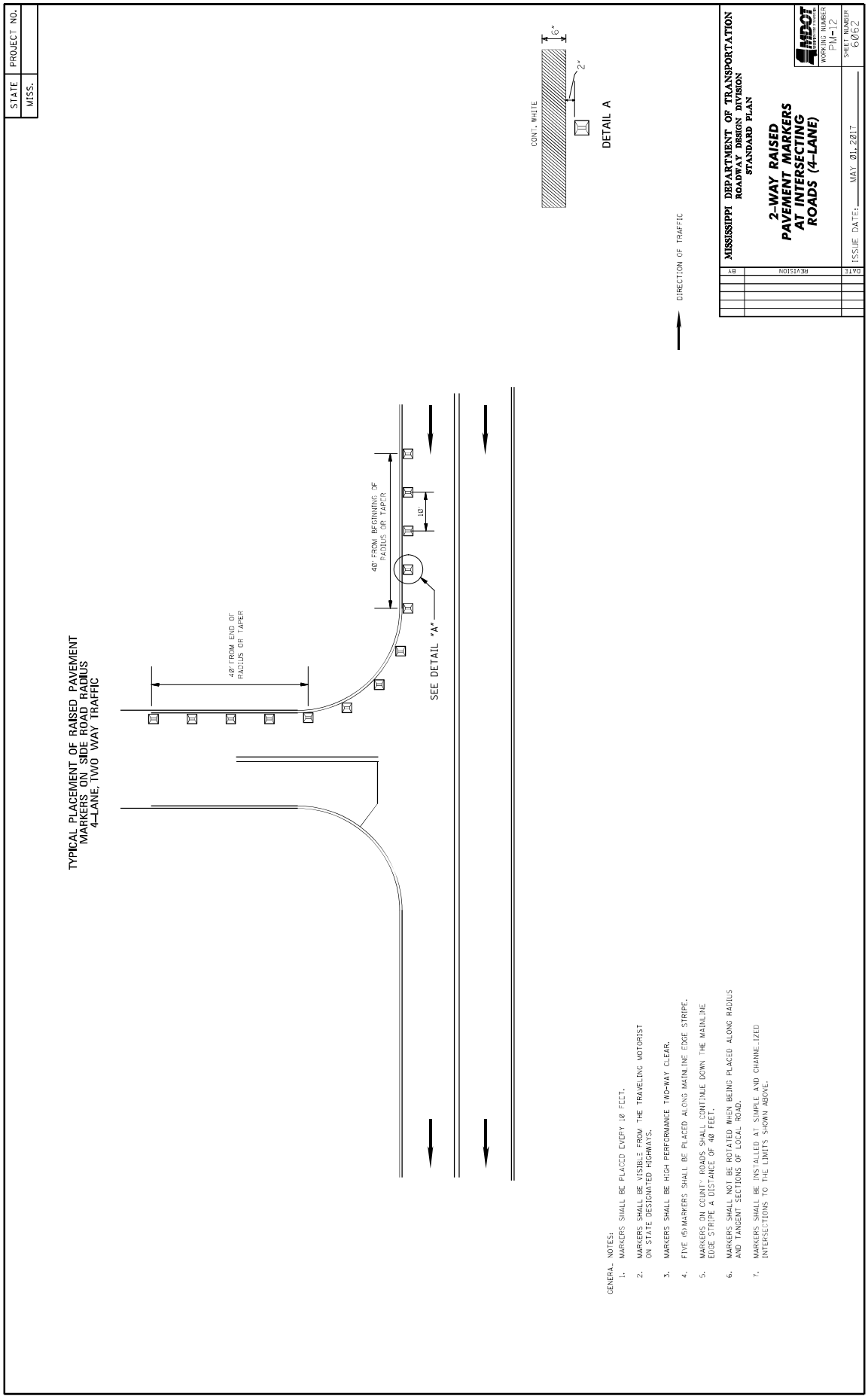

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TYPICAL PLACEMENT OF WARNING SIGNS AND PAVEMENT MARKINGS AT RAILROAD HIGHWAY GRADE CROSSINGS
WORKING NUMBER PM-7
SHEET NUMBER 6057
ISSUE DATE: MAY 01, 2017
BY
REVISION
DATE
GENERAL NOTES:
*1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
**2. WIDTH OF R X R SYMBOL MAY VARY ACCORDING TO LANE WIDTH. HOWEVER, ON MULTI-LANE ROADS, THE TRANSVERSE BANDS AND STOP LINE SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. R X R SYMBOL (63.0 ft²), TRANSVERSE BANDS AND STOP LINE SHALL BE PAID FOR AS LEGEND, WHITE.
***4. REFER TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR LOCATION OF PROPOSED WARNING DEVICES AT RAIL-ROAD-HIGHWAY GRADE CROSSINGS.
***PRESENT OR PROPOSED ACTIVE WARNING DEVICE
TYPICAL LOCATION OF STOP LINE WHERE AN ACTIVE WARNING DEVICE IS PRESENT OR PROPOSED.
EDGE OF SHOULDER
EDGE OF TRAVEL LANE
TRAFFIC
24" STOP LINE
8'-0" (TYP.)
℄ RAILROAD
TYPICAL LOCATION OF STOP LINE WHERE NO ACTIVE WARNING DEVICE IS PRESENT OR PROPOSED.
15'-0" (TYP.)
24" TRANSVERSE BAND
SEE DETAIL A FOR DIMENSIONS
℄ LANE
DISTANCE "X" (SEE TABLE BELOW)
*PAVEMENT MARKING SYMBOL
25'-0"
50'-0"
10'-0"
W10-1
NO PASSING ZONE
(OPTIONAL) W14-3
ADVANCE WARNING SIGN PLACEMENT DISTANCE
POSTED SPEED (mph)
① DISTANCE "X" (Ft)
20 100
25 100
30 100
35 100
40 125
45 175
50 250
55 325
60 400
65 475
NOTE:
① DISTANCE "X" MAY BE ADJUSTED IF PROHIBITIVE PHYSICAL CONDITIONS EXIST AT THE DESIGNATED DISTANCE.
DETAIL A
STANDARD "R" PAVEMENT MARKING FOR R X R SYMBOL

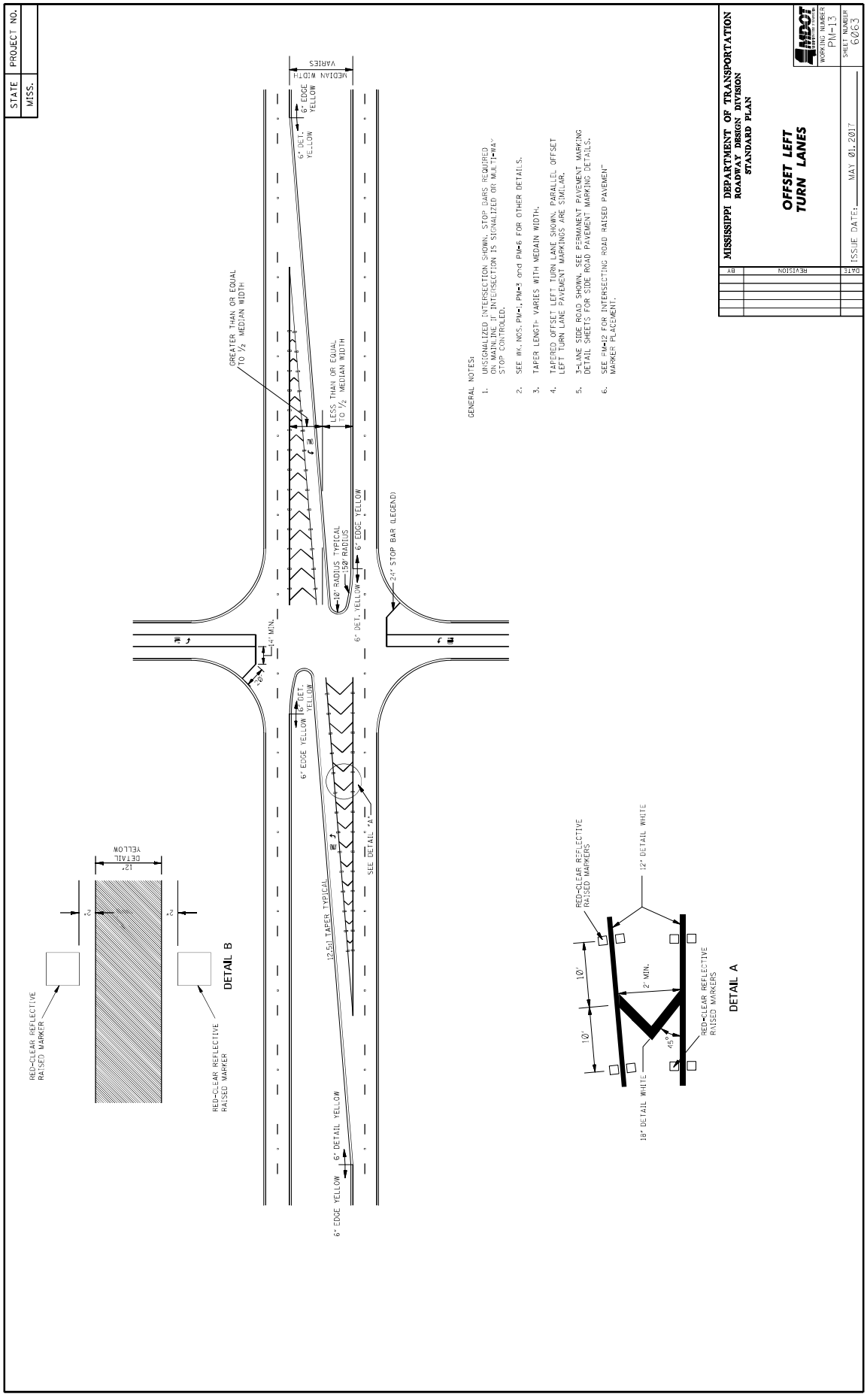

STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
4-LANE TO 2-LANE TRANSITION AT INTERCHANGE
WORKING NUMBER PM-8
SHEET NUMBER 6058
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
DETAIL A
* NOTE: VARIABLE (24" MAXIMUM)
12" DETAIL YELLOW
SEE DETAIL "D"
18" YELLOW 45° DIAGONAL DETAIL @ 20'-0" ON CENTER
DOUBLE TWO-WAY YELLOW REFLECTIVE RAISED MARKERS @ 20'-0" ON CENTER
VARIABLE WIDTH
24" 24" 24"
DETAIL B
NOT A STRIPE
12" DETAIL YELLOW
18" YELLOW 45° DIAGONAL DETAIL @ 20'-0" ON CENTER
TWO-WAY YELLOW REFLECTIVE RAISED MARKERS @ 20'-0" ON CENTER
SEE DETAIL E
TWO-WAY YELLOW REFLECTIVE RAISED MARKERS @ 12" ON CENTER ON 45° DIAGONAL
DETAIL C
20'-0" ON CENTER
RED-CLEAR REFLECTIVE RAISED MARKERS
6" DETAIL WHITE
6" DETAIL WHITE
DETAIL D
12" DETAIL YELLOW
PLAN
SEE SHEET PM-1
SEE DETAIL A
6" DETAIL WHITE (2" STRIPE 12" GAP)
100' MIN.
NOT A STRIPE
SEE DETAIL C
6" DETAIL WHITE (2" STRIPE 12" GAP)
SEE DETAIL B
LEGEND
DETAIL F
6" DETAIL WHITE (2" STRIPE 12" GAP)
SEE SHEET PM-1
100'
LEGEND
DETAIL F
DETAIL E
2"
45°
2"
12"
DETAIL YELLOW
12"
DETAIL F
6" CONT. YELLOW
RED/CLEAR REFLECTIVE RAISED MARKERS
6" SKIP WHITE
NOTE 1: SEE PM-6 FOR DETAILS OF LANE-REDUCTION ARROW.

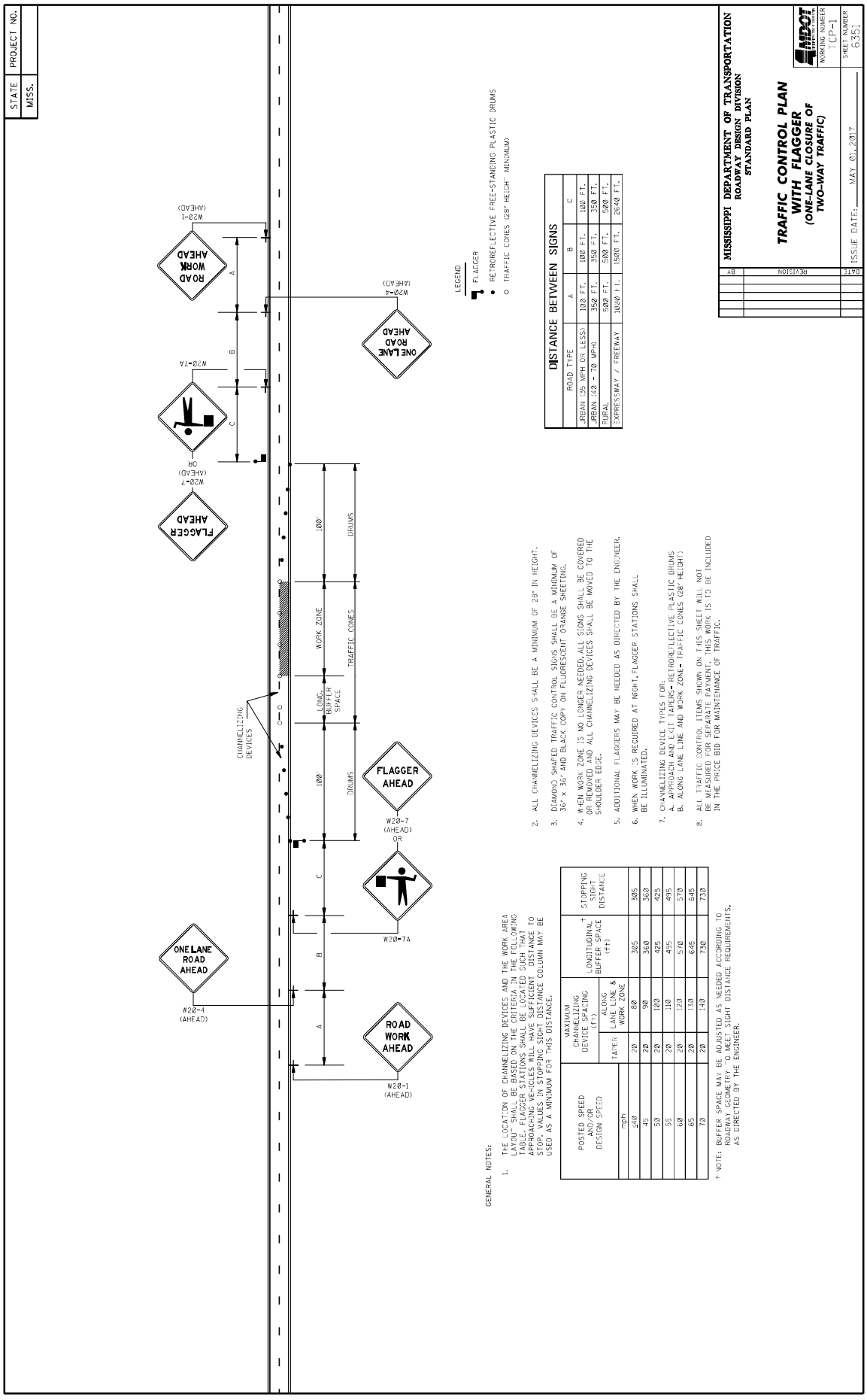

STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TYPICAL PAVEMENT MARKING DETAIL FOR MEDIAN CROSSOVERS
WORKING NUMBER FM-49
SHEET NUMBER 60759
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
℄ TO ℄ ≤ 88'
125' ≥ ℄ TO ℄ > 88'
SEE DETAIL "A"
SEE DETAIL "B"
SEE DETAIL "C"
6" EDGE STRIPE (CONT. WHITE)
6" CONT. EDGE WHITE
RED-CLEAR REFL. HIGH PERFORMANCE RAISED MARKERS
6" EDGE STRIPE (CONT. YELLOW)
6" DETAIL YELLOW
6" DETAIL WHITE
6" SKIP WHITE
LEGEND WHITE YIELD BAR (SF)
SEE PM-1 FOR SPACING
NOTE: SEE PM-5 FOR YIELD BAR DETAILS
NOTE: FOR WIDER ℄ TO ℄ SPACINGS, REFER TO OTHER SHEETS IN PLANS
THRU TRAFFIC
2-WAY YELLOW REFL. HIGH PERFORMANCE RAISED MARKERS @ 10' O.C.


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
PAVEMENT MARKING DETAILS FOR INTERCHANGE WITH LANE DROPS
WORKING NUMBER PM-10
SHEET NUMBER 6060
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
LANE DROP AT DUAL LANE RAMP
LANE DROP AT SINGLE LANE RAMP
DIRECTION OF TRAFFIC
TRAFFIC
6" SKIP WHITE *
6" EDGE STRIPE (CONT. YELLOW) *
6" EDGE STRIPE (CONT. WHITE) *
RED-CLEAR REFLECTIVE RAISED MARKER
PHYSICAL GORE
12" DETAIL WHITE
END AT PHYSICAL GORE
DETAIL "A"
DETAIL "B"
DETAIL "C"
DETAIL "D"
12" SKIP WHITE (3' STRIPE - 12' GAP)
1/2 MILE MIN.) LENGTH TO BE BASED ON FIELD CONDITIONS OR AS SHOWN ELSEWHERE ON PLANS
300' OR AS DIRECTED
RED-CLEAR REFLECTIVE RAISED MARKERS
18" DETAIL WHITE
2' MIN.
45°
DETAIL D
DETAIL C
DETAIL A
DETAIL B
12" OR 8" DETAIL WHITE
CONT. WHITE
GENERAL NOTES:
* 1. SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
** 2. ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-40' SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE IN DIRECTION OF TRAFFIC OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT *APPROVED SOURCES OF MATERIALS*.


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
2-WAY RAISED PAVEMENT MARKERS AT INTERSECTING ROADS (2-LANE)
WORKING NUMBER
PM-11
SHEET NUMBER
6061
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS ON SIDE ROAD RADIUS 2-LANE, TWO WAY TRAFFIC
40' FROM END OF RADIUS OR TAPER
40' FROM BEGINNING OF RADIUS OR TAPER
10'
SEE DETAIL "A"
DIRECTION OF TRAFFIC
DETAIL A
CONT. WHITE
6"
2"
GENERAL NOTES:
1. MARKERS SHALL BE PLACED EVERY 10 FEET.
2. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
3. MARKERS SHALL BE HIGH PERFORMANCE TWO-WAY CLEAR.
4. FIVE (5) MARKERS SHALL BE PLACED ALONG MAINLINE EDGE STRIPE.
5. MARKERS ON COUNTY ROADS SHALL CONTINUE DOWN THE MAINLINE EDGE STRIPE A DISTANCE OF 40 FEET.
6. MARKERS SHALL NOT BE ROTATED WHEN BEING PLACED ALONG RADIUS AND TANGENT SECTION OF LOCAL ROAD.
7. MARKERS SHALL BE INSTALLED AT SIMPLE AND CHANNELIZED INTERSECTIONS TO THE LIMITS SHOWN ABOVE.


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
2-WAY RAISED PAVEMENT MARKERS AT INTERSECTING ROADS (4-LANE)
WORKING NUMBER PM-12
SHEET NUMBER 6062
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS ON SIDE ROAD RADIUS 4-LANE, TWO WAY TRAFFIC
40' FROM END OF RADIUS OR TAPER
40' FROM BEGINNING OF RADIUS OR TAPER
10'
SEE DETAIL "A"
DIRECTION OF TRAFFIC
DETAIL A
CONT. WHITE
6"
2"
GENERAL NOTES:
1. MARKERS SHALL BE PLACED EVERY 10 FEET.
2. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
3. MARKERS SHALL BE HIGH PERFORMANCE TWO-WAY CLEAR.
4. FIVE (5) MARKERS SHALL BE PLACED ALONG MAINLINE EDGE STRIPE.
5. MARKERS ON COUNTY ROADS SHALL CONTINUE DOWN THE MAINLINE EDGE STRIPE A DISTANCE OF 40 FEET.
6. MARKERS SHALL NOT BE ROTATED WHEN BEING PLACED ALONG RADIUS AND TANGENT SECTIONS OF LOCAL ROAD.
7. MARKERS SHALL BE INSTALLED AT SIMPLE AND CHANNELIZED INTERSECTIONS TO THE LIMITS SHOWN ABOVE.


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
OFFSET LEFT TURN LANES
WORKING NUMBER PM-13
SHEET NUMBER 6063
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTES:
1. UNSIGNALIZED INTERSECTION SHOWN. STOP BARS REQUIRED ONLY WHEN THE INTERSECTION IS SIGNALIZED OR MULTI-WAY STOP CONTROLED.
2. SEE MK-NDS, PM-1, PM-3 and PM-6 FOR OTHER DETAILS.
3. TAPER LENGTH VARIES WITH MEDAIN WIDTH.
4. TAPERED OFFSET LEFT TURN LANE SHOWN. PARALLEL OFFSET LEFT TURN LANE PAVEMENT MARKINGS ARE SIMILAR.
5. 3-LANE SIDE ROAD SHOWN. SEE PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR SIDE ROAD PAVEMENT MARKING DETAILS.
6. SEE PM-12 FOR INTERSECTING ROAD RAISED PAVEMENT MARKER PLACEMENT.
GREATER THAN OR EQUAL TO ½ MEDIAN WIDTH
LESS THAN OR EQUAL TO ½ MEDIAN WIDTH
MEDIAN WIDTH VARIES
6" DET. YELLOW
6" EDGE YELLOW
10' RADIUS TYPICAL
24" STOP BAR (LEGEND)
4' MIN.
SEE DETAIL "A"
12:6:1 TAPER TYPICAL
DETAIL B
RED-CLEAR REFLECTIVE RAISED MARKER
DETAIL A
12" DETAIL WHITE
18" DETAIL WHITE
2' MIN.
10'
45°



DISTANCE BETWEEN SIGNS			
ROAD TYPE	A	B	C
URBAN (35 MPH OR LESS)	100 FT.	100 FT.	100 FT.
URBAN (40 - 70 MPH)	350 FT.	350 FT.	350 FT.
RURAL	500 FT.	500 FT.	500 FT.
EXPRESSWAY / FREEWAY	1000 FT.	1500 FT.	2640 FT.

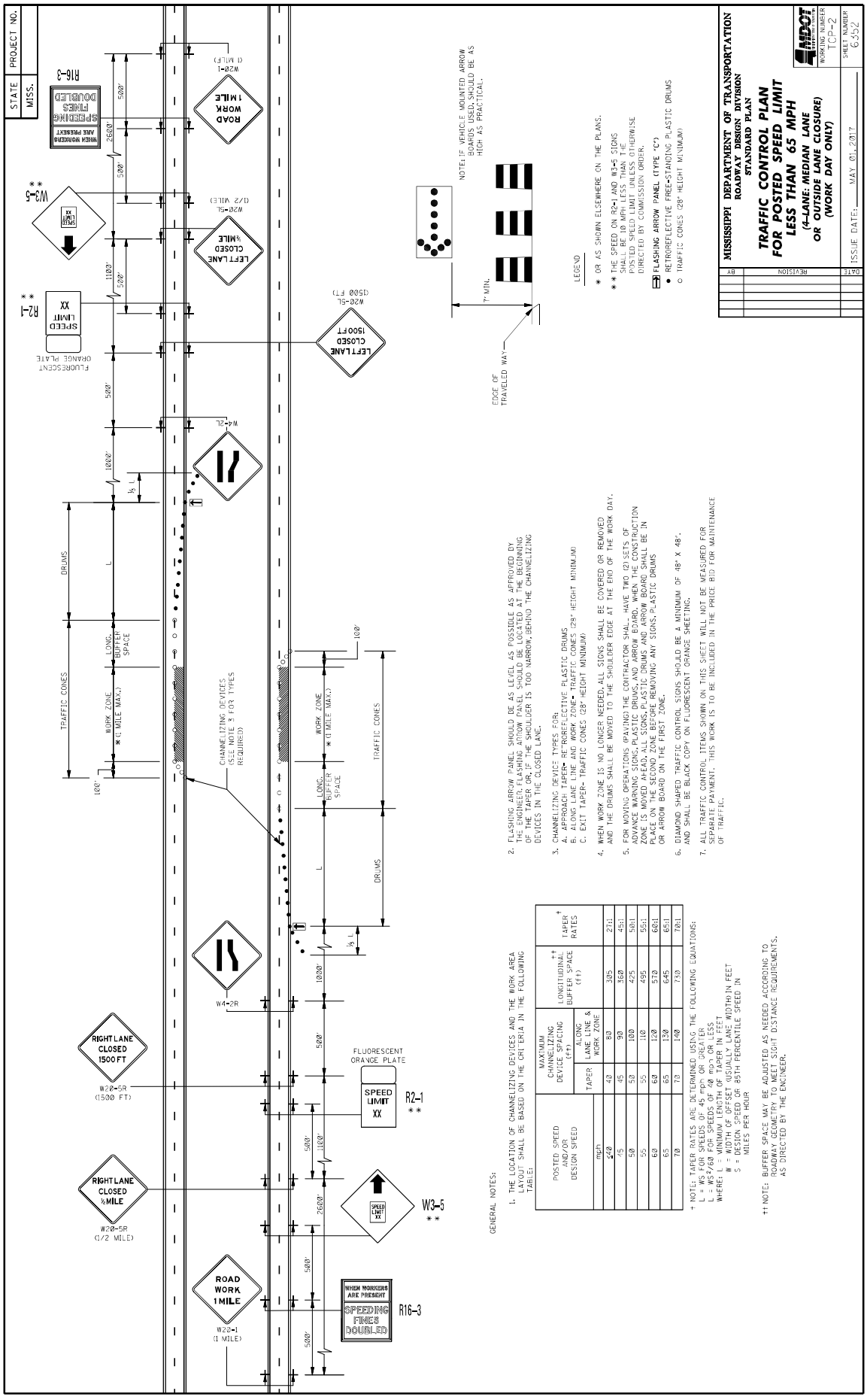
GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE. FLAGGER STATIONS SHALL BE LOCATED SUCH THAT APPROACHING VEHICLES WILL HAVE SUFFICIENT DISTANCE TO STOP. VALUES IN STOPPING SIGHT DISTANCE COLUMN MAY BE USED AS A MINIMUM FOR THIS DISTANCE.

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL† BUFFER SPACE (ft)	STOPPING SIGHT DISTANCE
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	20	80	305	305
45	20	90	360	360
50	20	100	425	425
55	20	110	495	495
60	20	120	570	570
65	20	130	645	645
70	20	140	730	730

† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. ALL CHANNELIZING DEVICES SHALL BE A MINIMUM OF 28" IN HEIGHT.
3. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 36" x 36" AND BLACK COPY ON FLUORESCENT ORANGE SHEETING.
4. WHEN WORK ZONE IS NO LONGER NEEDED, ALL SIGNS SHALL BE COVERED OR REMOVED AND ALL CHANNELIZING DEVICES SHALL BE MOVED TO THE SHOULDER EDGE.
5. ADDITIONAL FLAGGERS MAY BE NEEDED AS DIRECTED BY THE ENGINEER.
6. WHEN WORK IS REQUIRED AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED.
7. CHANNELIZING DEVICE TYPES FOR:
   A. APPROACH AND EXIT TAPERS- RETROREFLECTIVE PLASTIC DRUMS
   B. ALONG LANE LINE AND WORK ZONE- TRAFFIC CONES (28" HEIGHT)
8. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.



GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft) ††	TAPER † RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	40	80	305	27:1
45	45	90	360	45:1
50	50	100	425	50:1
55	55	110	495	55:1
60	60	120	570	60:1
65	65	130	645	65:1
70	70	140	730	70:1

† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 mph OR GREATER
L = WS²/60 FOR SPEEDS OF 40 mph OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR

†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.

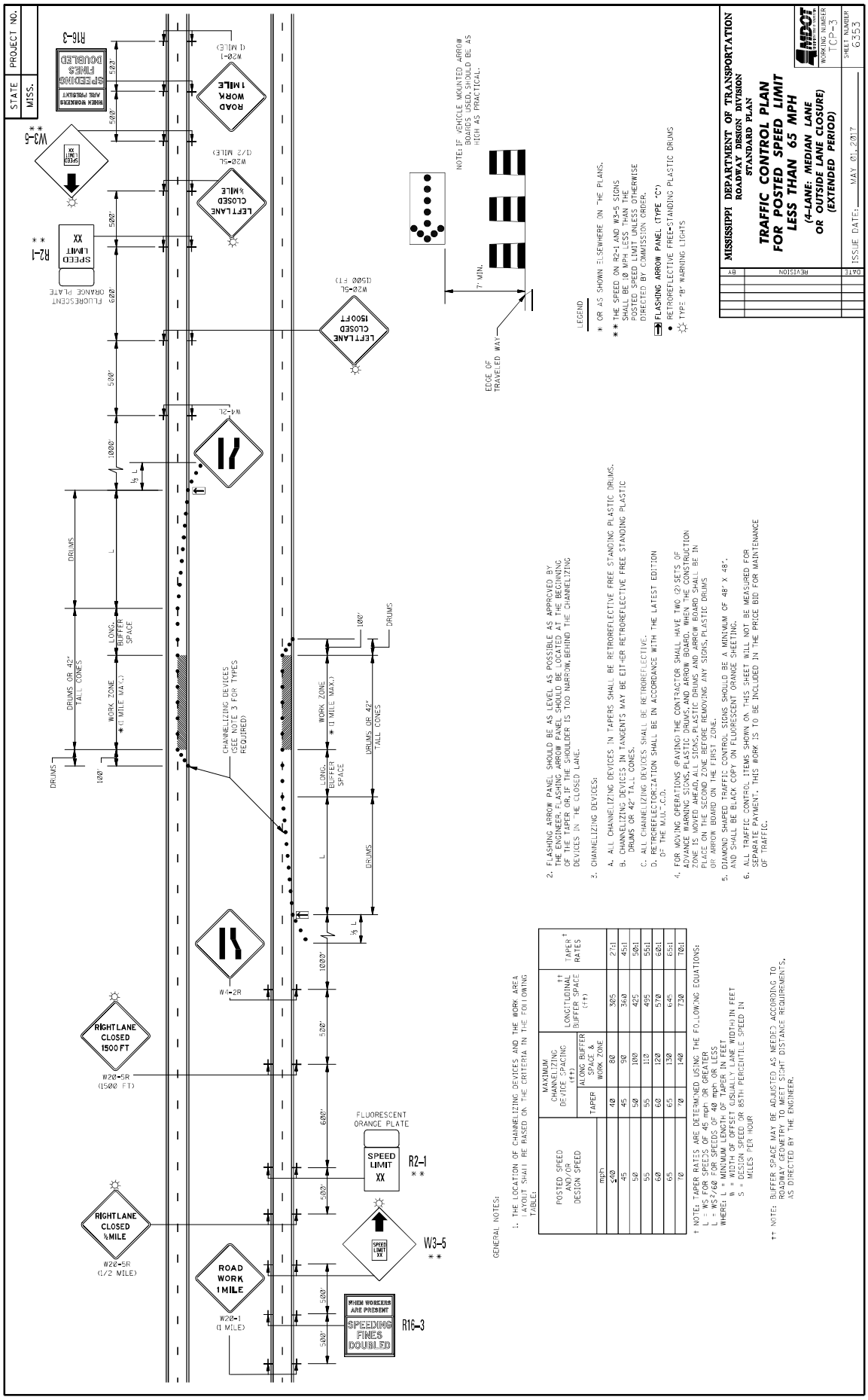
3. CHANNELIZING DEVICE TYPES FOR:
A. APPROACH TAPER- RETROREFLECTIVE PLASTIC DRUMS
B. ALONG LANE LINE AND WORK ZONE- TRAFFIC CONES (28" HEIGHT MINIMUM)
C. EXIT TAPER- TRAFFIC CONES (28" HEIGHT MINIMUM)

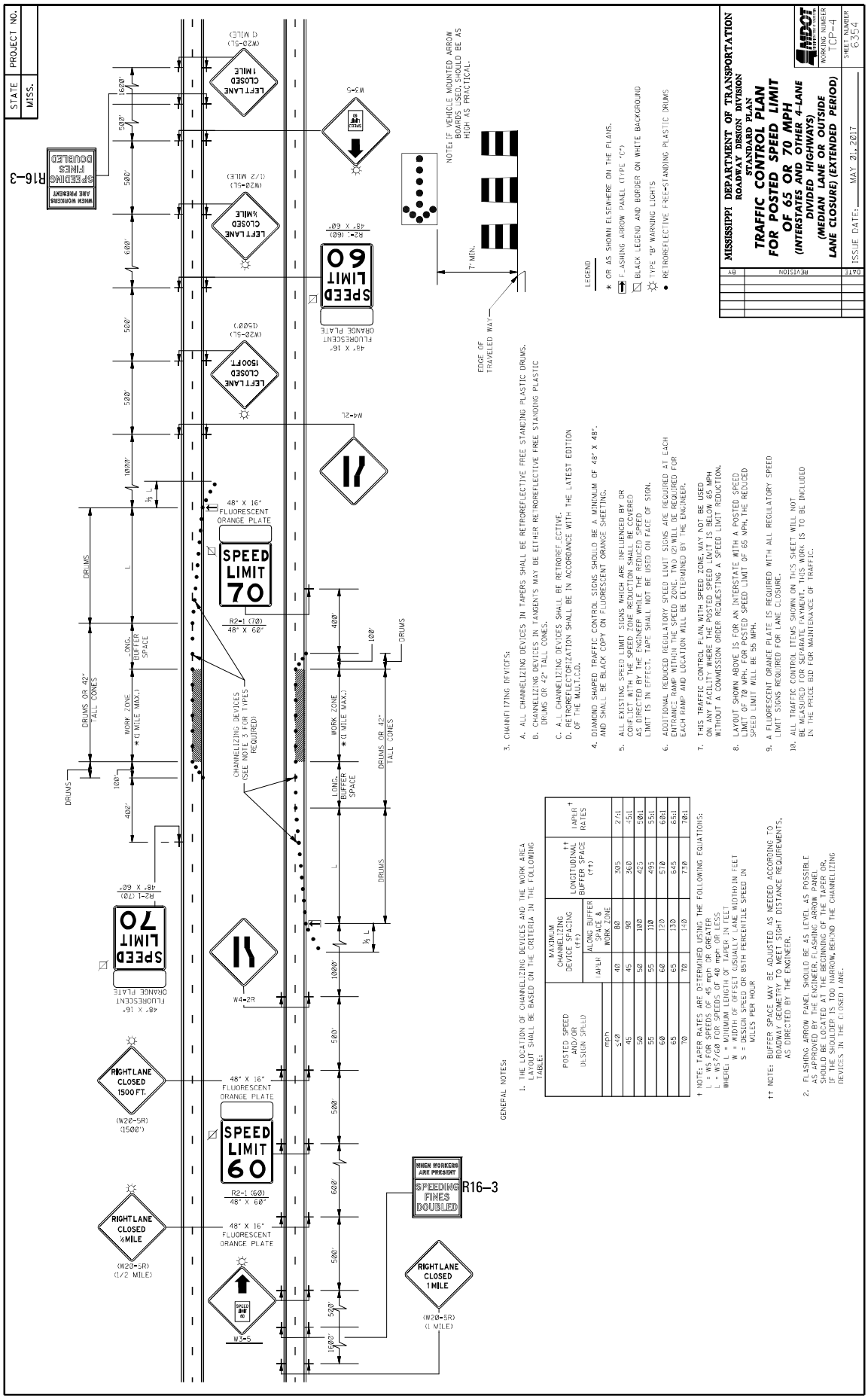
4. WHEN WORK ZONE IS NO LONGER NEEDED, ALL SIGNS SHALL BE COVERED OR REMOVED AND THE DRUMS SHALL BE MOVED TO THE SHOULDER EDGE AT THE END OF THE WORK DAY.

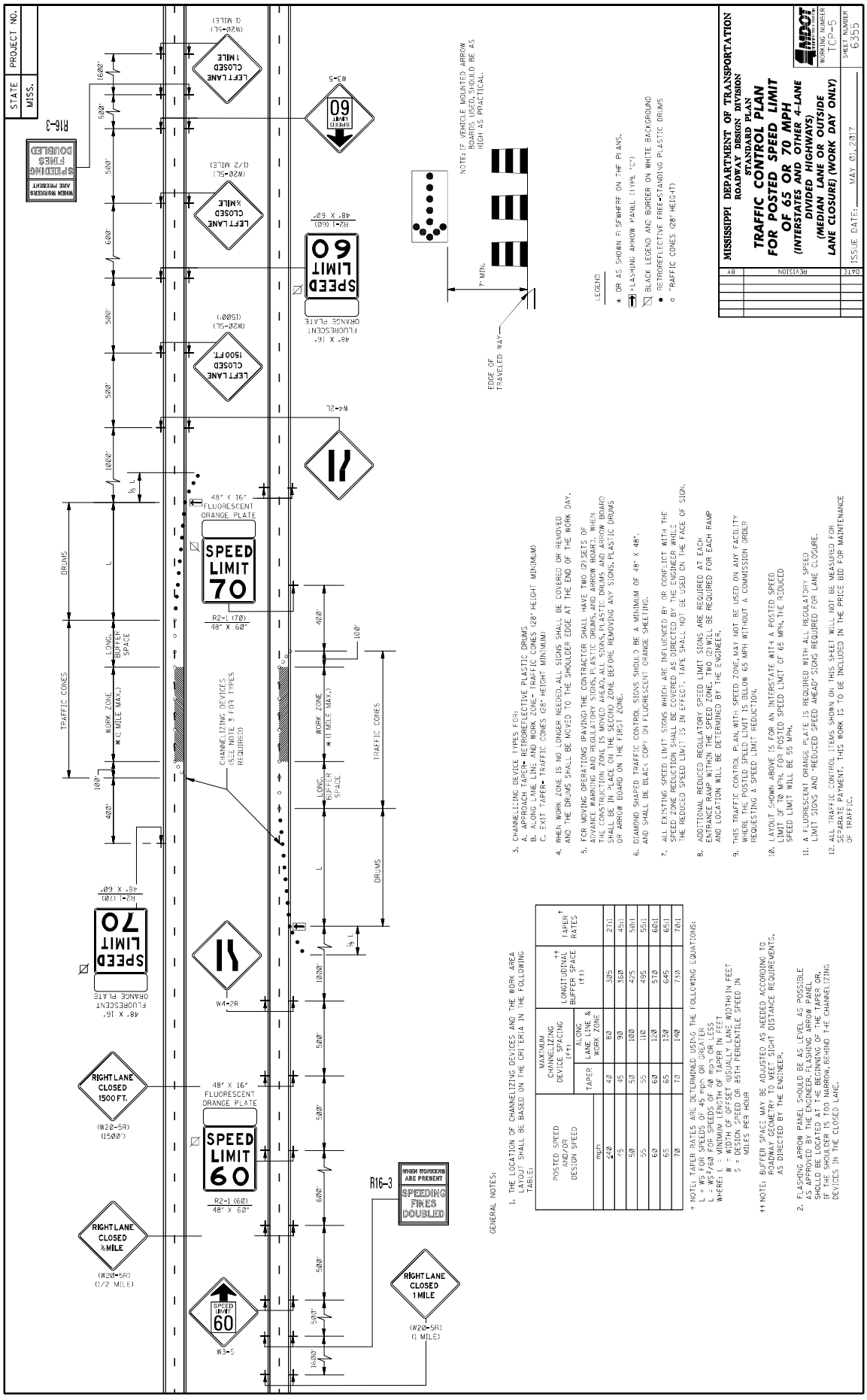
5. FOR MOVING OPERATIONS (PAVING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING SIGNS, PLASTIC DRUMS, AND ARROW BOARD. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.

6. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48", AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.

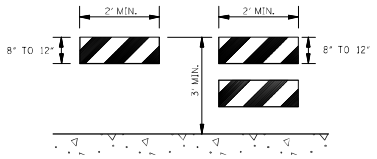
7. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL PLAN
FOR POSTED SPEED LIMIT
LESS THAN 65 MPH
(4-LANE: MEDIAN LANE
OR OUTSIDE LANE CLOSURE)
(EXTENDED PERIOD)
WORKING NUMBER TCP-3
SHEET NUMBER 6353
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
LEGEND
* OR AS SHOWN ELSEWHERE ON THE PLANS.
** THE SPEED ON R2-1 AND W3-5 SIGNS SHALL BE 10 MPH LESS THAN THE POSTED SPEED LIMIT UNLESS OTHERWISE DIRECTED BY COMMISSION ORDER.
FLASHING ARROW PANEL (TYPE "C")
RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
TYPE "B" WARNING LIGHTS
NOTE: IF VEHICLE MOUNTED ARROW BOARDS USED, SHOULD BE AS HIGH AS PRACTICAL.
7' MIN.
EDGE OF TRAVELED WAY
ROAD WORK 1 MILE
W20-1 (1 MILE)
LEFT LANE CLOSED ½MILE
W20-5L (1/2 MILE)
LEFT LANE CLOSED 1500FT
W20-5L (1500 FT)
W4-2L
W4-2R
W3-5
R2-1
SPEED LIMIT XX
FLUORESCENT ORANGE PLATE
R16-3
WHEN WORKERS ARE PRESENT
SPEEDING FINES DOUBLED
RIGHT LANE CLOSED 1500 FT
W20-5R (1500 FT)
RIGHT LANE CLOSED ½MILE
W20-5R (1/2 MILE)
CHANNELIZING DEVICES (SEE NOTE 3 FOR TYPES REQUIRED)
DRUMS
DRUMS OR 42" TALL CONES
WORK ZONE * (1 MILE MAX.)
LONG. BUFFER SPACE
L
½ L
100'
500'
600'
1000'
GENERAL NOTES:
1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:
POSTED SPEED AND/OR DESIGN SPEED
MAXIMUM CHANNELIZING DEVICE SPACING (++)
TAPER
ALONG BUFFER SPACE & WORK ZONE
LONGITUDINAL BUFFER SPACE (++)
TAPER † RATES
mph
≤40 40 80 305 2:1
45 45 90 360 4.5:1
50 50 100 425 5.0:1
55 55 110 495 5.5:1
60 60 120 570 6.0:1
65 65 130 645 6.5:1
70 70 140 730 7.0:1
† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 mph OR LESS
L = WS2/60 FOR SPEEDS OF 40 mph OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR
++ NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.
2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. THE FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR AT THE BUFFER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. CHANNELIZING DEVICES:
A. ALL CHANNELIZING DEVICES IN TAPERS SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
B. CHANNELIZING DEVICES IN TANGENTS MAY BE EITHER RETROREFLECTIVE FREE STANDING PLASTIC DRUMS OR 42" TALL CONES.
C. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE.
D. RETROREFLECTORIZATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAS.C.O.
4. FOR MOVING OPERATIONS (PAVING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING SIGNS, PLASTIC DRUMS, AND ARROW BOARD, WHEN THE CONSTRUCTION ZONES MOVES AHEAD. ALL SIGNS, PLASTIC DRUMS, AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.
5. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48", AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
6. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

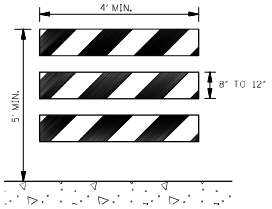

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL PLAN
FOR POSTED SPEED LIMIT
OF 65 OR 70 MPH
(INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS)
(MEDIAN LANE OR OUTSIDE LANE CLOSURE) (EXTENDED PERIOD)
WORKING NUMBER TCP-4
SHEET NUMBER 6354
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
LEGEND
* OR AS SHOWN ELSEWHERE ON THE PLANS.
FLASHING ARROW PANEL (TYPE "C")
BLACK LEGEND AND BORDER ON WHITE BACKGROUND
TYPE "B" WARNING LIGHTS
RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
NOTE: IF VEHICLE MOUNTED ARROW BOARDS USED, SHOULD BE AS HIGH AS PRACTICAL.
7' MIN.
EDGE OF TRAVELED WAY
GENERAL NOTES:
1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:
POSTED SPEED AND/OR DESIGN SPEED
MAXIMUM CHANNELIZING DEVICE SPACING
ALONG BUFFER SPACE & WORK ZONE
LONGITUDINAL BUFFER SPACE (++)
TAPER RATES
mph
≤40 40 80 305 2:1
45 45 90 360 45:1
50 50 100 425 50:1
55 55 110 495 55:1
60 60 120 570 60:1
65 65 130 645 65:1
70 70 140 730 70:1
† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 mph OR GREATER
L = WS²/60 FOR SPEEDS OF 40 mph OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER, IN FEET
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR
†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO FIELD CONDITIONS TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.
2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. CHANNELIZING DEVICES:
A. ALL CHANNELIZING DEVICES IN TAPERS SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
B. CHANNELIZING DEVICES IN TANGENTS MAY BE EITHER RETROREFLECTIVE FREE STANDING PLASTIC DRUMS OR 42" TALL CONES.
C. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE.
D. RETROREFLECTORIZATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD.
4. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48". AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
5. ALL EXISTING SPEED LIMIT SIGNS WHICH ARE INFLUENCED BY OR CONFLICT WITH THE SPEED ZONE REDUCTION SHALL BE COVERED AS DIRECTED BY THE ENGINEER WHILE THE REDUCED SPEED LIMIT IS IN EFFECT. TAPE SHALL NOT BE USED ON FACE OF SIGN.
6. ADDITIONAL REDUCED REGULATORY SPEED LIMIT SIGNS ARE REQUIRED AT EACH ENTRANCE RAMP WITHIN THE SPEED ZONE. THE NUMBER REQUIRED FOR EACH RAMP AND LOCATION WILL BE DETERMINED BY THE ENGINEER.
7. THIS TRAFFIC CONTROL PLAN, WITH SPEED ZONE, MAY NOT BE USED ON ANY FACILITY WHERE THE POSTED SPEED LIMIT IS BELOW 65 MPH WITHOUT A COMMISSION ORDER REQUESTING A SPEED LIMIT REDUCTION.
8. LAYOUT SHOWN ABOVE IS FOR AN INTERSTATE WITH A POSTED SPEED LIMIT OF 70 MPH. FOR POSTED SPEED LIMIT OF 65 MPH, THE REDUCED SPEED LIMIT WILL BE 55 MPH.
9. A FLUORESCENT ORANGE PLATE IS REQUIRED WITH ALL REGULATORY SPEED LIMIT SIGNS REQUIRED FOR LANE CLOSURE.
10. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
R16-3
SPEEDING FINES DOUBLED WHEN WORKERS ARE PRESENT
LEFT LANE CLOSED 1 MILE (W20-5L) (1 MILE)
LEFT LANE CLOSED ½ MILE (W20-5L) (1/2 MILE)
LEFT LANE CLOSED 1500FT (W20-5L) (1500')
W3-5
R2-1 (60) 48" X 60"
SPEED LIMIT 60
48" X 16" FLUORESCENT ORANGE PLATE
R2-1 (70) 48" X 60"
SPEED LIMIT 70
W4-2R
W4-2L
RIGHT LANE CLOSED 1500 FT. (W20-5R) (1500')
RIGHT LANE CLOSED ½MILE (W20-5R) (1/2 MILE)
RIGHT LANE CLOSED 1 MILE (W20-5R) (1 MILE)
HIGH WORKERS ARE PRESENT
SPEEDING FINES DOUBLED
DRUMS OR 42" TALL CONES
WORK ZONE * (1 MILE MAX.)
LONG. BUFFER SPACE
CHANNELIZING DEVICES (SEE NOTE 3 FOR TYPES REQUIRED)
100'
400'
500'
600'
1000'
1500'
L
½ L
W


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL PLAN
FOR POSTED SPEED LIMIT
OF 65 OR 70 MPH
(INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS)
(MEDIAN LANE OR OUTSIDE LANE CLOSURE) (WORK DAY ONLY)
WORKING NUMBER TCP-5
SHEET NUMBER 6355
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
LEGEND
* OR AS SHOWN FSFWHFRF ON THE PLANS.
FLASHING ARROW PANEL (TYPE "C")
BLACK LEGEND AND BORDER ON WHITE BACKGROUND
RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
TRAFFIC CONES (28" HEIGHT)
NOTE: IF VEHICLE MOUNTED ARROW BOARDS USED, SHOULD BE AS HIGH AS PRACTICAL.
7' MIN.
EDGE OF TRAVELED WAY
GENERAL NOTES:
1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:
POSTED SPEED AND/OR DESIGN SPEED
MAXIMUM CHANNELIZING DEVICE SPACING (ft)
TAPER
ALONG LANE LINE & WORK ZONE
LONGITUDINAL BUFFER SPACE (ft) ††
TAPER† RATES
mph
40 40 80 305 2:1
45 45 90 360 4.5:1
50 50 100 425 5.0:1
55 55 110 495 5.5:1
60 60 120 570 6.0:1
65 65 130 645 6.5:1
70 70 140 730 7.0:1
† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 mph OR GREATER
L = WS²/60 FOR SPEEDS OF 40 mph OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR
†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.
2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. CHANNELIZING DEVICE TYPES FOR:
A. APPROACH TAPER= RETROREFLECTIVE PLASTIC DRUMS
B. ALONG LANE LINE AND WORK ZONE= TRAFFIC CONES (28" HEIGHT MINIMUM)
C. EXIT TAPER= TRAFFIC CONES (28" HEIGHT MINIMUM)
4. WHEN WORK ZONE IS NO LONGER NEEDED, ALL SIGNS SHALL BE COVERED OR REMOVED AND THE DRUMS SHALL BE MOVED TO THE SHOULDER EDGE AT THE END OF THE WORK DAY.
5. FOR MOVING OPERATIONS (PAVING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING AND REGULATORY SIGNS, PLASTIC DRUMS, AND ARROW BOARD. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.
6. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48", AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
7. ALL EXISTING SPEED LIMIT SIGNS WHICH ARE INFLUENCED BY OR CONFLICT WITH THE SPEED ZONE REDUCTION SHALL BE COVERED AS DIRECTED BY THE ENGINEER WHILE THE REDUCED SPEED LIMIT IS IN EFFECT. TAPE SHALL NOT BE USED ON THE FACE OF SIGN.
8. ADDITIONAL REDUCED REGULATORY SPEED LIMIT SIGNS ARE REQUIRED AT EACH ENTRANCE RAMP WITHIN THE SPEED ZONE. TWO (2) WILL BE REQUIRED FOR EACH RAMP AND LOCATION WILL BE DETERMINED BY THE ENGINEER.
9. THIS TRAFFIC CONTROL PLAN WITH SPEED ZONE MAY NOT BE USED ON ANY FACILITY WHERE THE POSTED SPEED LIMIT IS BELOW 65 MPH WITHOUT A COMMISSION ORDER REQUESTING A SPEED LIMIT REDUCTION.
10. LAYOUT SHOWN ABOVE IS FOR AN INTERSTATE WITH A POSTED SPEED LIMIT OF 70 MPH. FOR POSTED SPEED LIMIT OF 65 MPH, THE REDUCED SPEED LIMIT WILL BE 55 MPH.
11. A FLUORESCENT ORANGE PLATE IS REQUIRED WITH ALL REGULATORY SPEED LIMIT SIGNS AND "REDUCED SPEED AHEAD" SIGNS REQUIRED FOR LANE CLOSURE.
12. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
W4-2L
W4-2R
W3-5
R16-3
SPEEDING FINES DOUBLED
WHEN WORKERS ARE PRESENT
R2-1 (70) 48" X 60"
R2-1 (60) 48" X 60"
SPEED LIMIT 70
SPEED LIMIT 60
48" X 16" FLUORESCENT ORANGE PLATE
48" X 16" FLUORESCENT ORANGE SHEETING
LEFT LANE CLOSED 1 MILE (W20-5L) (1 MILE)
LEFT LANE CLOSED ½ MILE (W20-5L) (1/2 MILE)
LEFT LANE CLOSED 1500 FT (W20-5L) (1500')
RIGHT LANE CLOSED 1500 FT. (W20-5R) (1500')
RIGHT LANE CLOSED ½ MILE (W20-5R) (1/2 MILE)
RIGHT LANE CLOSED 1 MILE (W20-5R) (1 MILE)
TRAFFIC CONES
DRUMS
WORK ZONE * (1 MILE MAX.)
LONG. BUFFER SPACE
CHANNELIZING DEVICES (SEE NOTE 3 FOR TYPES REQUIRED)
100'
400'
500'
600'
1000'
1600'
½ L
L
W

STATE	PROJECT NO.
MISS.	



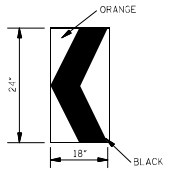
TYPE I TYPE II



TYPE III

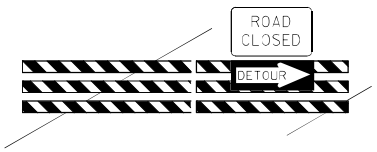
STANDARD BARRICADES

1. THE MARKING FOR BARRICADE RAILS SHALL BE ORANGE AND WHITE (SLOPING DOWNWARD AT AN ANGLE OF 45° IN THE DIRECTION TRAFFIC IS TO PASS).
2. RAIL STRIPE SHALL BE 6 INCHES, EXCEPT THAT 4-INCH WIDE STRIPES MAY BE USED IF RAIL LENGTHS ARE LESS THAN 36 INCHES.
3. DO NOT PLACE SANDBAGS OR OTHER DEVICES TO PROVIDE MASS ON THE BOTTOM RAIL THAT WILL BLOCK VIEW OR RAIL FACE.
4. FOR ADDITIONAL INFORMATION OR DETAILS, SEE MUTCD, LATEST EDITION.
5. BARRICADES ARE CLASSIFIED BY FHWA AS CATEGORY II WORK ZONE DEVICES WHICH REQUIRE CRASHWORTHINESS ACCEPTANCE LETTERS. TO DATE, 2-IN. THICK TIMBER RAILS HAVE NOT BEEN SUCCESSFULLY CRASH TESTED. A LIST OF CRASHWORTHY BARRICADES AND OTHER CATAGORY II DEVICES CAN BE FOUND ON FHWA'S WEBSITE: http://safety.fhwa.dot.gov/roadway_dept/policy.guide/road_hardware/cat2.cfm



CHEVRON SIGN DETAIL

1. A CHEVRON SIGN CONSISTS OF A BLACK CHEVRON TYPE MARKING ON AN ORANGE BACKGROUND AND SHALL POINT IN THE DIRECTION OF TRAFFIC FLOW.
2. THE CHEVRON SIGN SHALL BE MOUNTED ON CRASHWORTHY SUPPORT.
3. CHEVRON SIGNS MAY BE USED TO SUPPLEMENT OTHER STANDARD DEVICES WHERE ONE OR MORE LANES ARE CLOSED FOR CONSTRUCTION OR MAINTENANCE. THEY SHOULD BE PLACED APPROXIMATELY 2'-0" BEHIND THE LANE TRANSITION STRIPE.



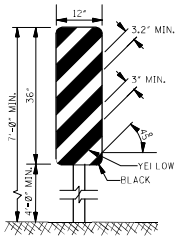
BARRICADE CLOSING A ROAD

BARRICADE CHARACTERISTICS

	I	II	III
WIDTH OF RAIL **	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.
LENGTH OF RAIL **	24" MIN.	24" MIN.	48" MIN.
WIDTH OF STRIPE *	6"	6"	6"
HEIGHT	36" MIN.	36" MIN.	60" MIN.
NUMBER OF RETROREFLECTORIZED RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS

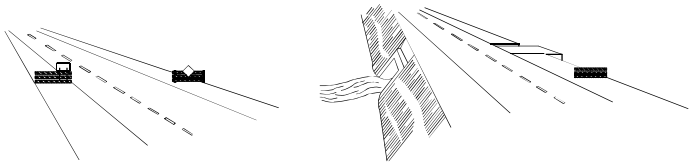
* 1. FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.

** 2. BARRICADES INTENDED FOR USE ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH SPEED ROADWAYS, SHALL HAVE A MINIMUM OF 270 in² OF REFLECTIVE AREA FACING TRAFFIC.



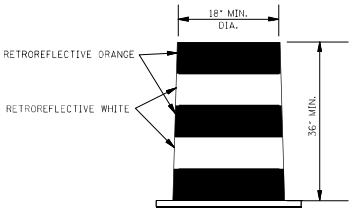
TYPE 3 OBJECT MARKER (OM-3R)

1. TYPE 3 OBJECT MARKERS SHALL BE USED AT ALL EXPOSED BRIDGE ABUTMENTS AND AT OTHER LOCATIONS AS DEEMED NECESSARY BY THE ENGINEER.
2. THE OM-3R IS SHOWN. THE OM-3L IS SIMILAR EXCEPT THE STRIPES SLOPE DOWNWARD FROM THE UPPER LEFT SIDE TO THE LOWER RIGHT SIDE AND SHALL BE PLACED ON THE LEFT SIDE OF THE OBJECT.
3. THE INSIDE EDGE OF THE MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION.



WING BARRICADES

1. WING BARRICADES ARE TYPE III BARRICADES ERECTED ON THE SHOULDER ON ONE OR BOTH SIDES OF THE PAVEMENT TO GIVE THE SENSATION OF A NARROWING OR RESTRICTED ROADWAY. WING BARRICADES MAY BE USED AS A MOUNTING FOR THE ADVANCE WARNING SIGNS OR FLASHERS.
2. WING BARRICADES SHOULD BE USED:
   A. IN ADVANCE OF A CONSTRUCTION PROJECT EVEN WHEN NO PART OF THE ROADWAY IS ACTUALLY CLOSED.
   B. IN ADVANCE OF ALL BRIDGE OR CULVERT WIDENING OPERATIONS.



PLASTIC DRUM STRIPING DETAIL

1. PLASTIC DRUMS SHALL BE ON END AND USED AS AN EXPEDIENT METHOD FOR TRAFFIC CHANNELIZATION. THE COLOR AND MARKING OF DRUMS SHALL BE CONSISTENT WITH MARKING STANDARDS FOR BARRICADE. THE PREDOMINANT COLOR ON DRUMS SHALL BE ORANGE WITH FOUR (4) RETROREFLECTIVE, HORIZONTAL, CIRCUMFERENTIAL STRIPES (2 ORANGE & 2 WHITE) 6" WIDE.
2. DRUMS SHOULD NEVER BE PLACED IN THE ROADWAY WITHOUT WARNING SIGNS.
3. WHERE PRACTICAL PLASTIC DRUMS SHOULD BE PLACED NO CLOSER THAN 3'-0" FROM THE EDGE OF TRAVELED LANE.

BY | REVISION | DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECTS

MDOT

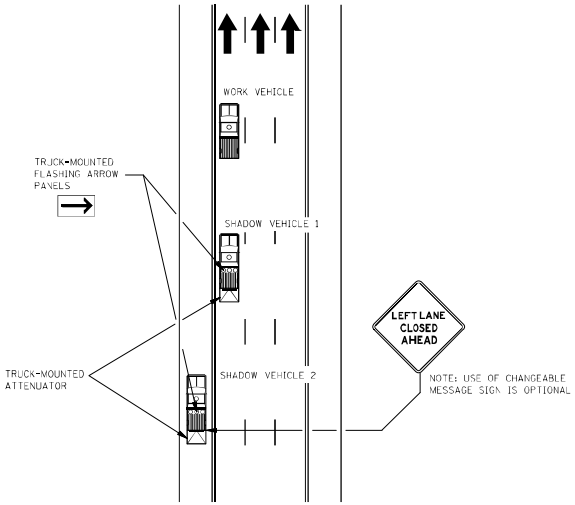
WORKING NUMBER: TCP-8

ISSUE DATE: MAY 31, 2017

SHEET NUMBER: 6358

STATE	PROJECT NO.
MISS.	

MOBILE OPERATIONS ON MULTILANE ROAD

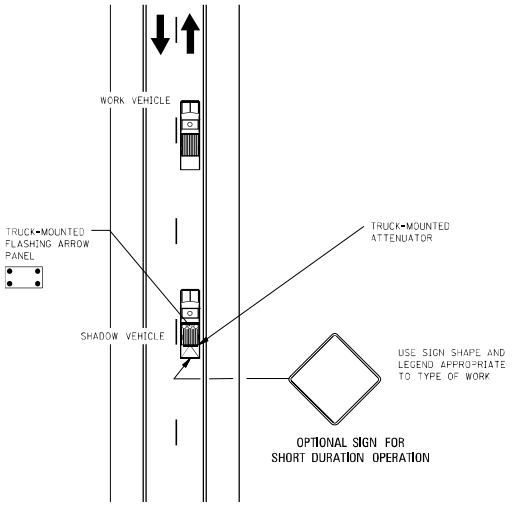


MOBILE OPERATIONS ON MULTILANE ROAD

NOTES FOR MULTILANE LANE OPERATION:

1. VEHICLES USED FOR THESE OPERATIONS SHOULD BE MADE HIGHLY VISIBLE WITH APPROPRIATE EQUIPMENT, SUCH AS FLASHING LIGHTS, ROTATING BEACONS, FLAGS, SIGNS, OR ARROW PANELS.
2. SHADOW VEHICLE 2 SHOULD BE EQUIPPED WITH AN ARROW PANEL AND TRUCK MOUNTED ATTENUATOR (TMA). AN APPROPRIATE LANE CLOSURE SIGN SHOULD BE PLACED ON SHADOW VEHICLE 2 SO AS NOT TO OBSCURE THE ARROW PANEL.
3. SHADOW VEHICLE 1 SHOULD BE EQUIPPED WITH AN ARROW PANEL AND TRUCK-MOUNTED ATTENUATOR (TMA).
4. SHADOW VEHICLE 2 SHOULD TRAVEL AT A VARYING DISTANCE FROM THE WORK OPERATION SO AS TO PROVIDE ADEQUATE SIGHT DISTANCE FOR TRAFFIC APPROACHING FROM THE REAR.
5. WHEN ADEQUATE SHOULDER WIDTH IS NOT AVAILABLE, SHADOW VEHICLE 2 SHOULD BE ELIMINATED.
6. ON HIGH-SPEED ROADWAYS, A THIRD SHADOW VEHICLE SHOULD BE USED (i.e., VEHICLE 3 ON THE SHOULDER (IF PRACTICAL), VEHICLE 2 IN THE CLOSED LANE, AND VEHICLE 1 IN THE CLOSED LANE).
7. ARROW PANELS SHALL BE AS A MINIMUM TYPE B, 60" X 30" IN ACCORDANCE WITH THE CRITERIA PRESENTED IN THE MUTCD.
8. WORK SHOULD NORMALLY BE DONE DURING OFF-PEAK HOURS.
9. VEHICLE-MOUNTED SIGNS SHOULD BE MOUNTED WITH THE BOTTOM OF THE SIGN LOCATED AT A MINIMUM HEIGHT OF 48" ABOVE THE PAVEMENT AND SHALL NOT BE OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
10. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

MOBILE OPERATIONS ON TWO–LANE ROAD



MOBILE OPERATIONS ON TWO–LANE ROAD

NOTES FOR TWO-LANE OPERATION:

1. WHERE PRACTICAL AND WHEN NEEDED, THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS. IF THIS CAN NOT BE DONE FREQUENTLY, AS AN ALTERNATIVE, A "DO NOT PASS" SIGN MAY BE PLACED ON THE REAR OF THE VEHICLE BLOCKING THE LANE.
2. THE DISTANCE BETWEEN THE WORK AND SHADOW VEHICLES MAY VARY ACCORDING TO TERRAIN, PAINT DRYING TIME, AND OTHER FACTORS. SHADOW VEHICLES ARE USED TO WARN TRAFFIC OF THE OPERATION AHEAD. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLE SHOULD MAINTAIN THE MINIMUM DISTANCE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. THE SHADOW VEHICLE SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
3. ADDITIONAL SHADOW VEHICLES TO WARN AND REDUCE THE SPEED OF ONCOMING OR OPPOSING TRAFFIC MAY BE USED. POLICE PATROL CARS MAY BE USED FOR THIS PURPOSE.
4. A TRUCK-MOUNTED ATTENUATOR (TMA) SHOULD BE USED ON THE SHADOW VEHICLE AND MAY BE USED ON THE WORK VEHICLE.
5. THE WORK VEHICLE SHALL BE EQUIPPED WITH BEACONS, AND THE SHADOW VEHICLES SHALL BE EQUIPPED WITH TWO HIGH-INTENSITY FLASHING LIGHTS MOUNTED ON THE REAR, ADJACENT TO THE SIGN. SHADOW AND WORK VEHICLES SHALL DISPLAY FLASHING OR ROTATING BEACONS BOTH FORWARD AND TO THE REAR.
6. VEHICLE-MOUNTED SIGNS SHOULD BE MOUNTED WITH THE BOTTOM OF THE SIGN LOCATED AT A MINIMUM HEIGHT OF 48" ABOVE THE PAVEMENT AND SHALL NOT BE OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
7. ARROW BOARD TO BE USED IN CAUTION MODE.
8. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

DATE	REVISION	BY

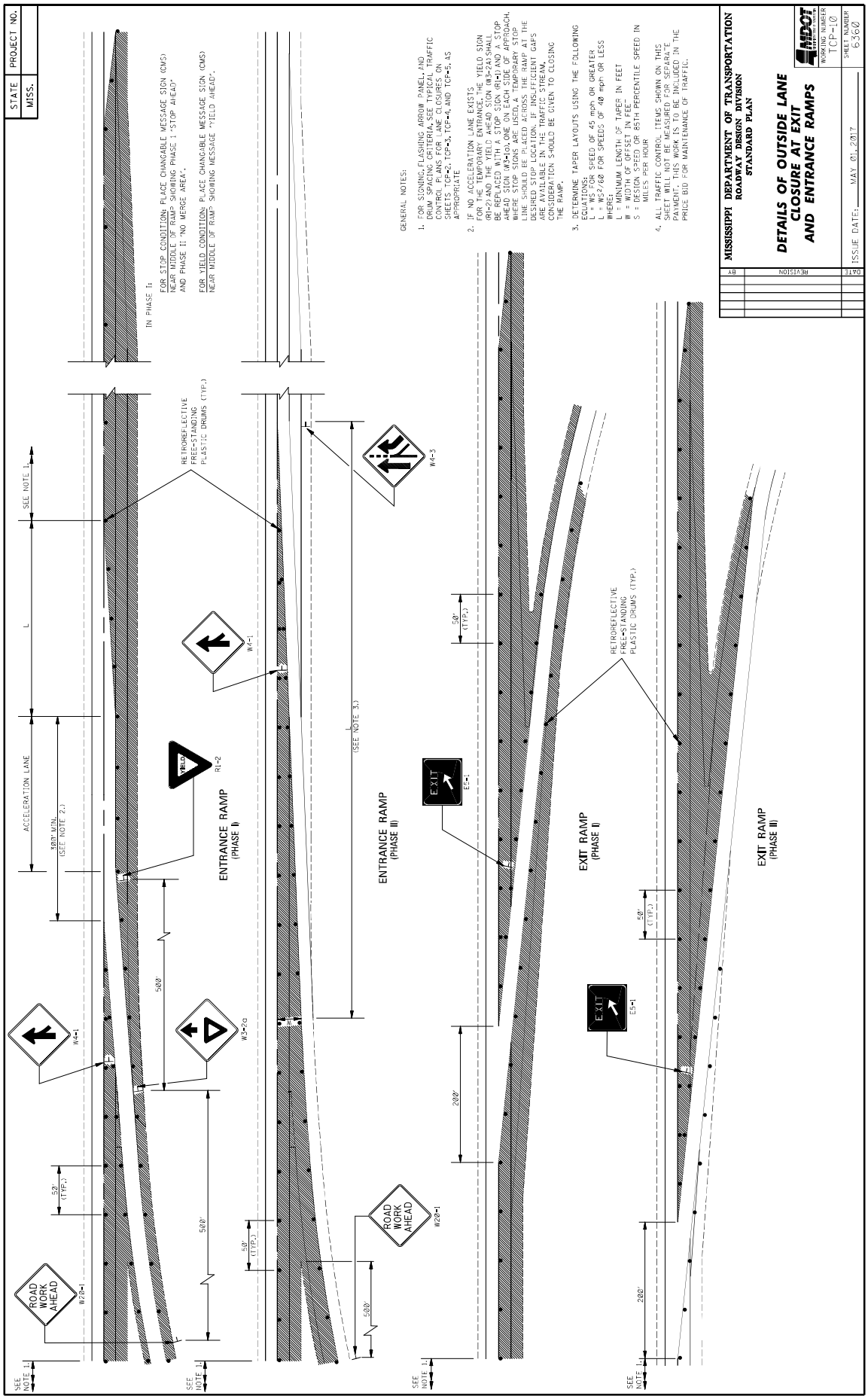
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

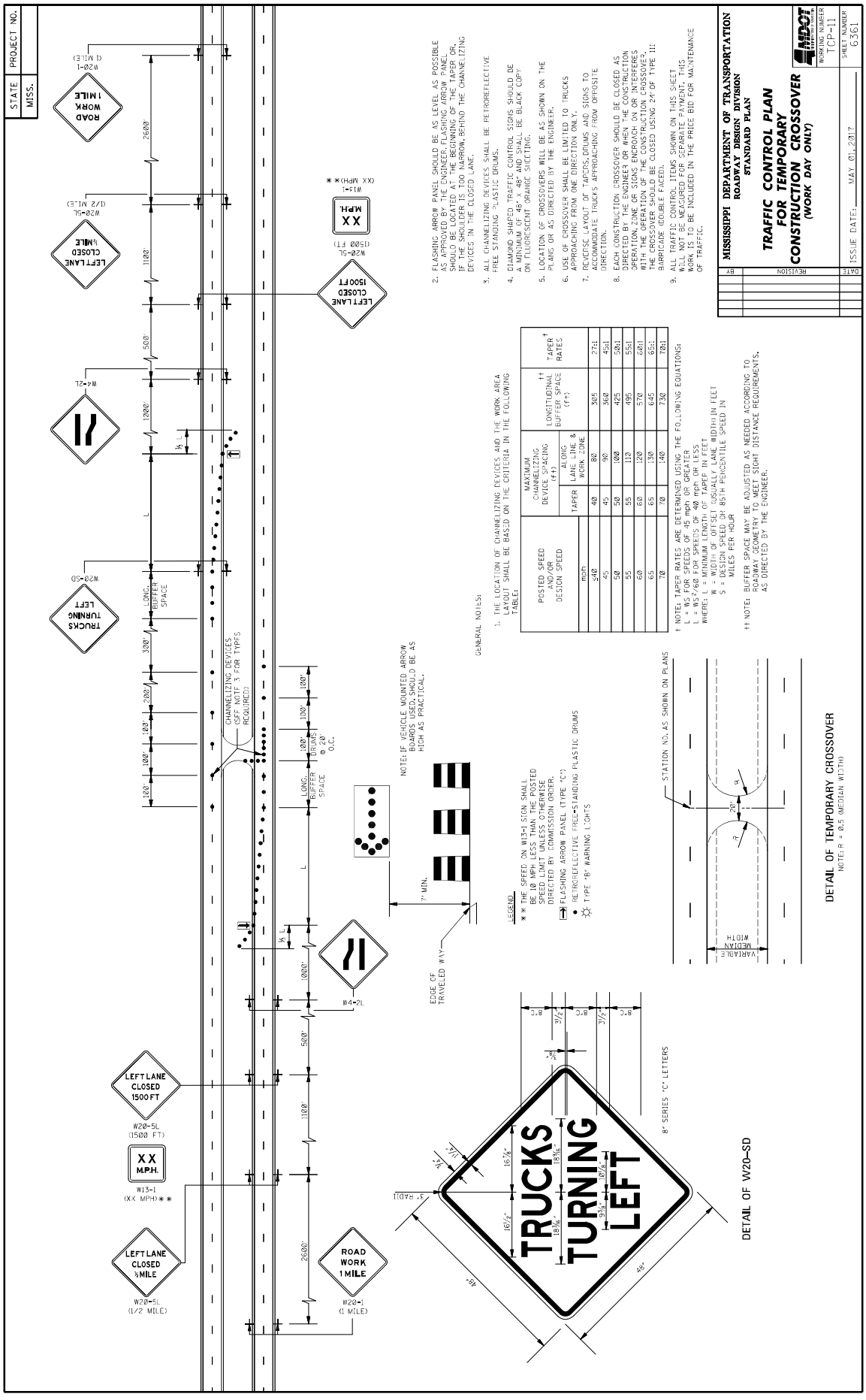
TRAFFIC CONTROL PLAN MOBILE OPERATIONS MULTILANE ROADS AND TWO–LANE ROADS

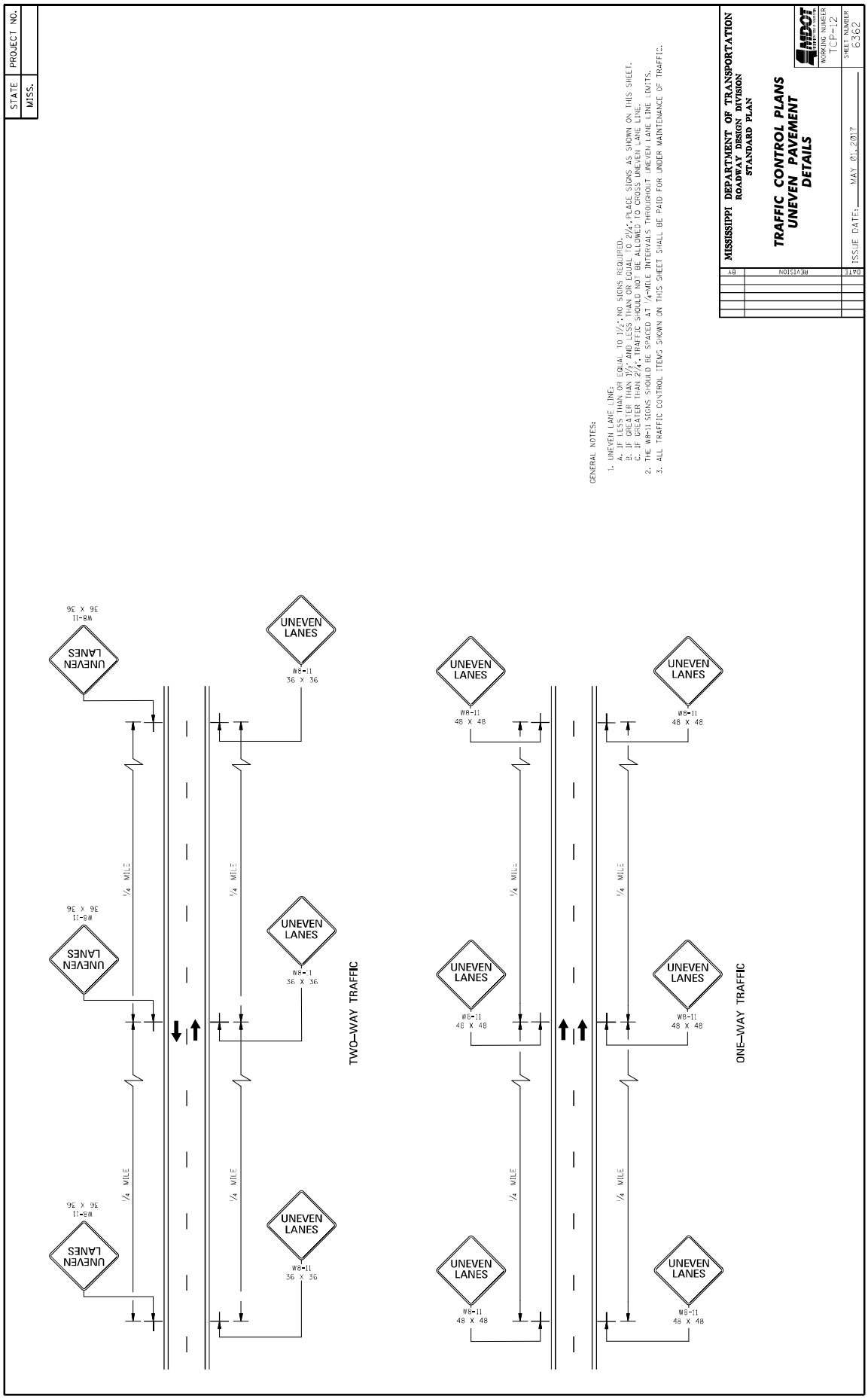
ISSUE DATE: MAY 01, 2017

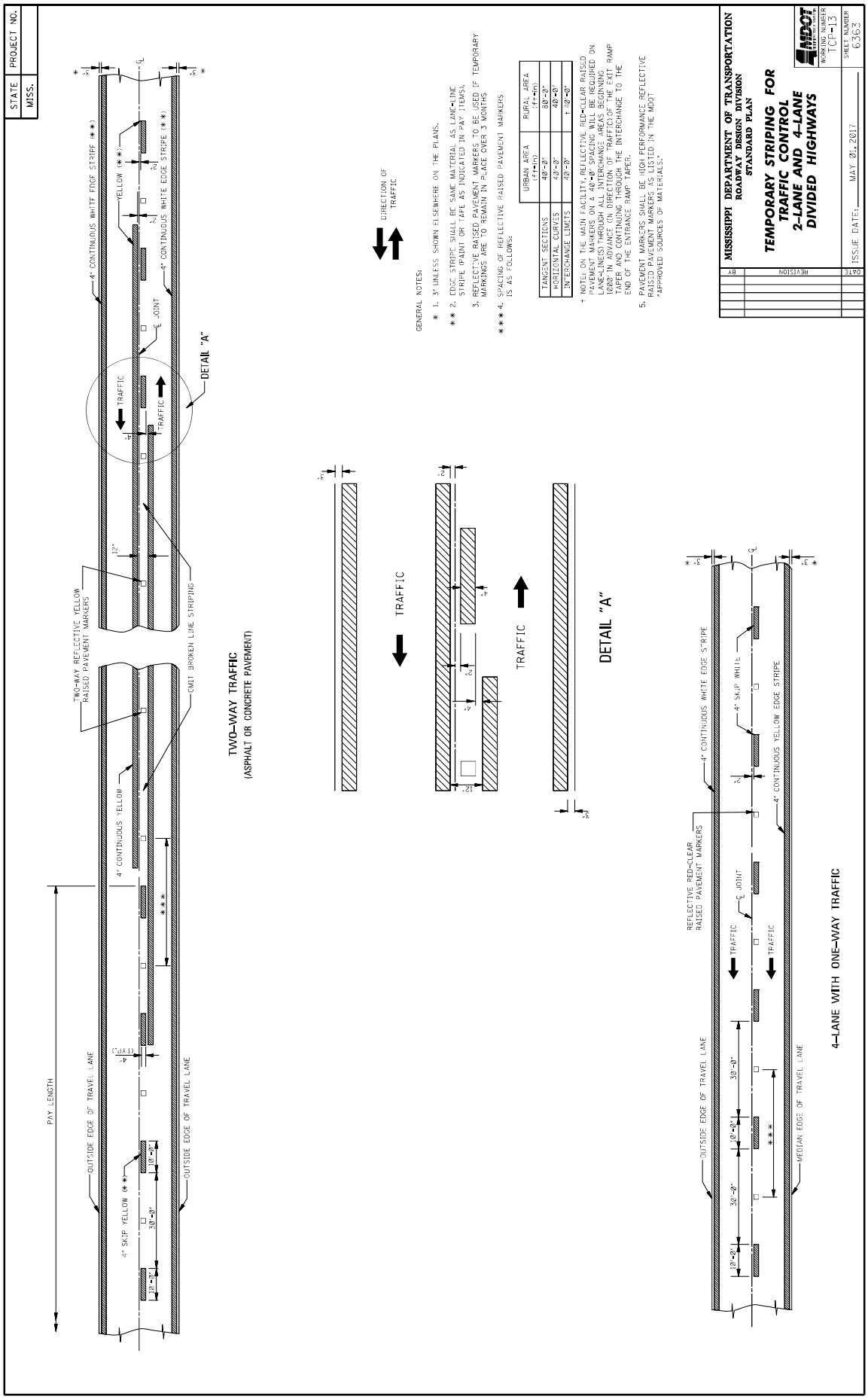
WORKING NUMBER: TCP-9

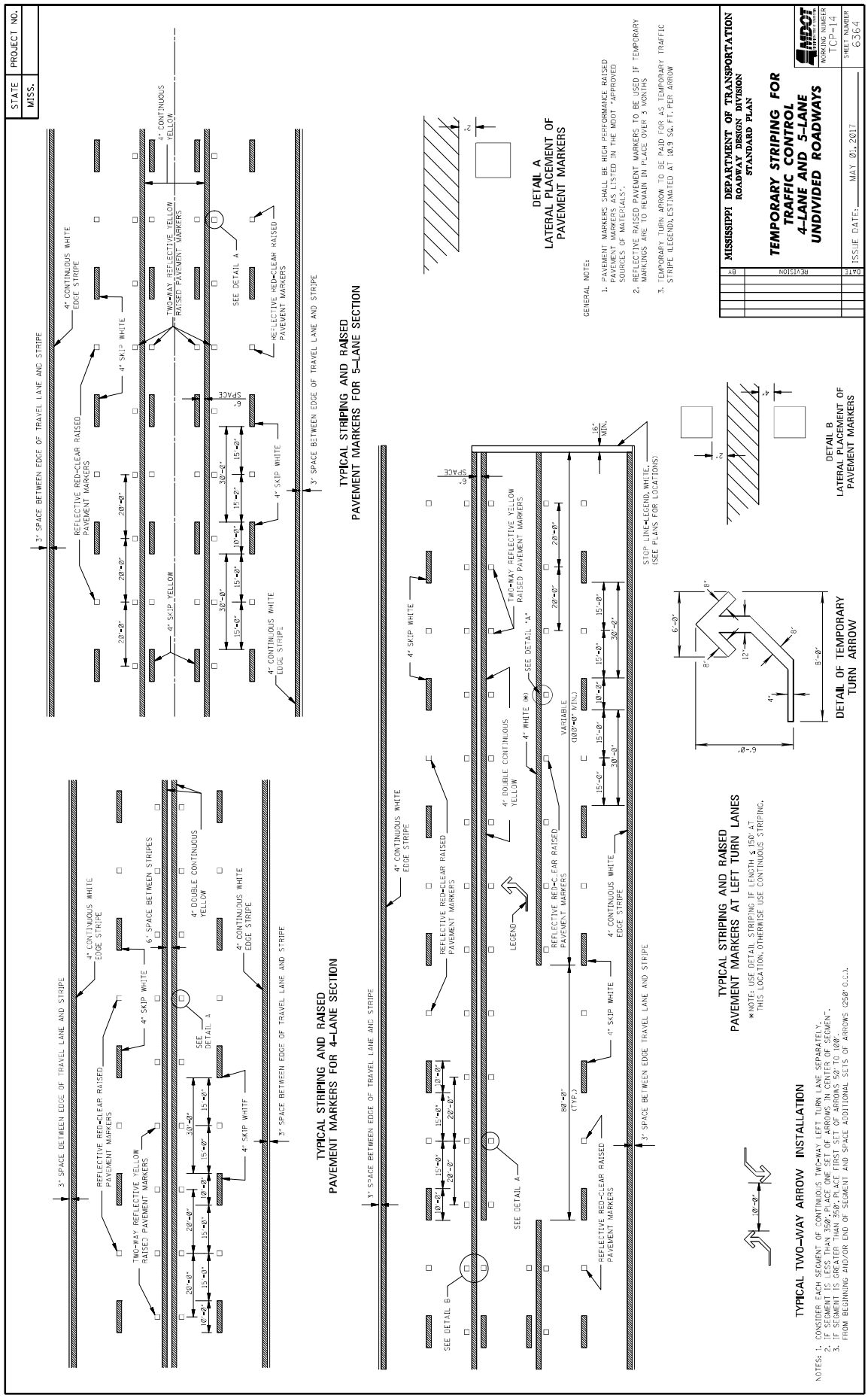
SHEET NUMBER: 6359

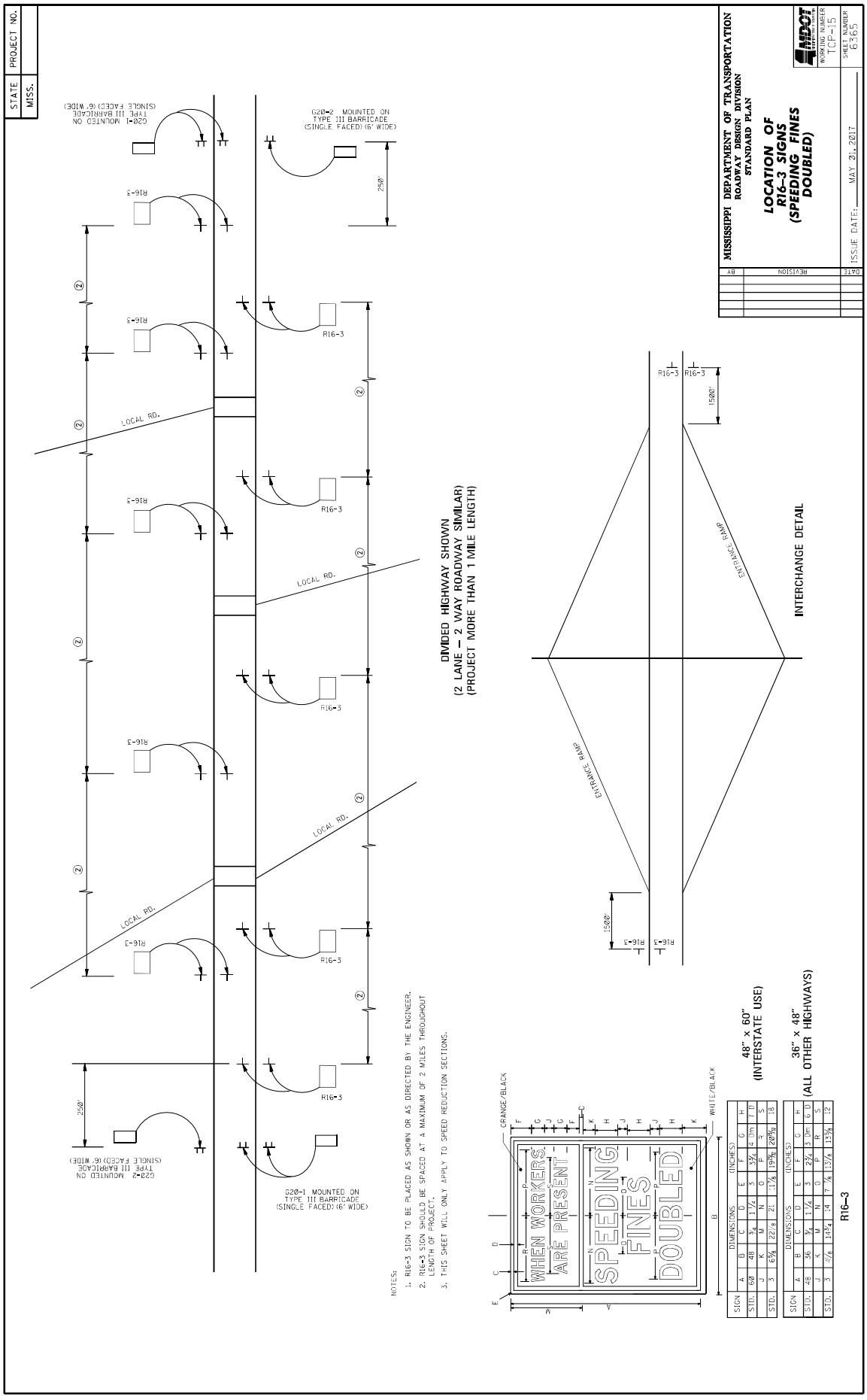

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
DETAILS OF OUTSIDE LANE CLOSURE AT EXIT AND ENTRANCE RAMPS
WORKING NUMBER TCP-10
SHEET NUMBER 6360
ISSUE DATE: MAY 01, 2017
REVISION
BY
DATE
GENERAL NOTES:
1. FOR SIGNING, FLASHING ARROW PANEL AND DRUM SPACING CRITERIA, SEE TYPICAL TRAFFIC CONTROL PLANS FOR LANE CLOSURES ON SHEETS TCP-2, TCP-3, TCP-4, AND TCP-5, AS APPROPRIATE
2. IF NO ACCELERATION LANE EXISTS FOR THE TEMPORARY ENTRANCE, THE YIELD SIGN (R1-2) AND THE YIELD AHEAD SIGN (W3-2A) SHALL BE REPLACED WITH A STOP SIGN (R1-1) AND A STOP AHEAD SIGN (W3-1), ONE ON EACH SIDE OF APPROACH. WHERE STOP SIGNS ARE USED, A TEMPORARY STOP BAR LINE SHOULD BE PLACED ACROSS THE RAMP AT THE DESIRED STOP LOCATION. IF INSUFFICIENT GAPS ARE AVAILABLE IN THE TRAFFIC STREAM, CONSIDERATION SHOULD BE GIVEN TO CLOSING THE RAMP.
3. DETERMINE TAPER LAYOUTS USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEED OF 45 mph OR GREATER
L = WS²/60 FOR SPEEDS OF 40 mph OR LESS
WHERE:
L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR
4. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
IN PHASE I:
FOR STOP CONDITION: PLACE CHANGABLE MESSAGE SIGN (CMS) NEAR MIDDLE OF RAMP SHOWING PHASE 1 "STOP AHEAD" AND PHASE II "NO MERGE AREA".
FOR YIELD CONDITION: PLACE CHANGABLE MESSAGE SIGN (CMS) NEAR MIDDLE OF RAMP SHOWING MESSAGE "YIELD AHEAD".
ENTRANCE RAMP (PHASE I)
ENTRANCE RAMP (PHASE II)
EXIT RAMP (PHASE I)
EXIT RAMP (PHASE II)
ACCELERATION LANE
L
300' MIN. (SEE NOTE 2.)
SEE NOTE 1.
RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS (TYP.)
ROAD WORK AHEAD
W20-1
W4-1
W3-2a
R1-2
W4-3
E5-1
EXIT
50' (TYP.)
500'
200'
(SEE NOTE 3.)

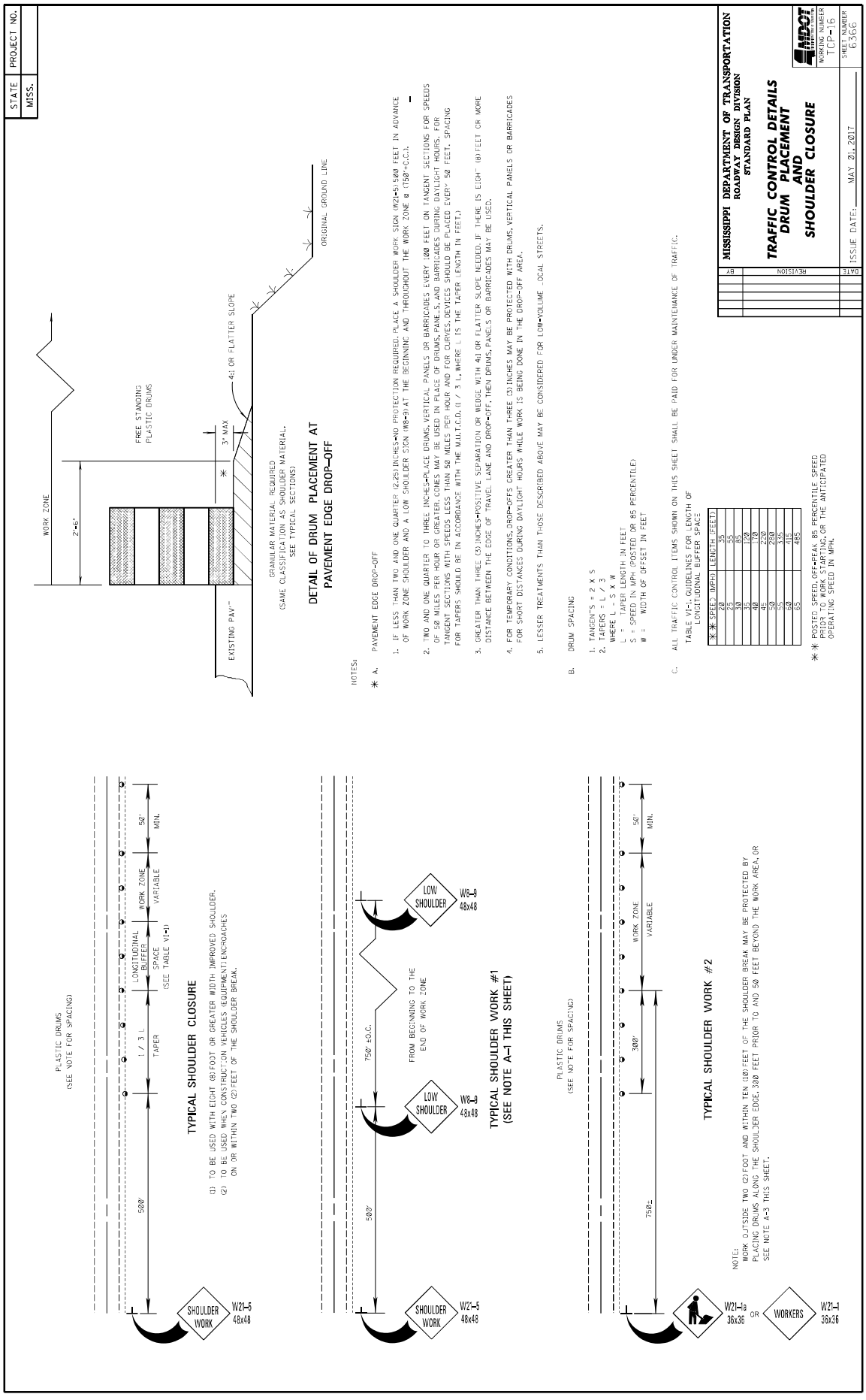

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL PLAN FOR TEMPORARY CONSTRUCTION CROSSOVER
(WORK DAY ONLY)
WORKING NUMBER TCP-11
SHEET NUMBER 6361
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTES:
1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:
2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF NO TAPER IS USED, AT THE ARROW BOARD BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
4. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48" AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
5. LOCATION OF CROSSOVERS WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. USE OF CROSSOVER SHALL BE LIMITED TO TRUCKS APPROACHING FROM ONE DIRECTION ONLY.
7. REVERSE LAYOUT OF TAPERS, DRUMS AND SIGNS TO ACCOMMODATE TRUCKS APPROACHING FROM OPPOSITE DIRECTION.
8. EACH CONSTRUCTION CROSSOVER SHOULD BE CLOSED AS DIRECTED BY THE ENGINEER OR WHEN THE CONSTRUCTION OPERATION, ZONE OR SIGNS ENCROACH ON OR INTERFERES WITH THE OPERATION OF THE CONSTRUCTION CROSSOVER. THE CROSSOVER SHOULD BE CLOSED USING 24' OF TYPE III BARRICADE (DOUBLE FACED).
9. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET ARE NOT INCLUDED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
POSTED SPEED AND/OR DESIGN SPEED
MAXIMUM CHANNELIZING DEVICES SPACING (FT)
TAPER
ALONG LANE LINE & WORK ZONE
LONGITUDINAL BUFFER SPACE (FT)
TAPER RATES
mph
† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 mph OR GREATER
L = WS²/60 FOR SPEEDS OF 40 mph OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR
†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY, OBJECT, AND SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.
LEGEND
** THE SPEED ON W13-1 SIGN SHALL BE 10 MPH LESS THAN THE POSTED SPEED LIMIT UNLESS OTHERWISE DIRECTED BY COMMISSION ORDER.
FLASHING ARROW PANEL (TYPE 'C')
RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
TYPE 'B' WARNING LIGHTS
NOTE: IF VEHICLE MOUNTED ARROW BOARDS USED, SHOULD BE AS HIGH AS PRACTICAL.
7' MIN.
EDGE OF TRAVELED WAY
CHANNELIZING DEVICES (SEE NOTE 3 FOR TYPES REQUIRED)
LONG. BUFFER SPACE
TRUCKS TURNING LEFT
W20-5D
LEFT LANE CLOSED 1500 FT
W20-5L (1500 FT)
XX M.P.H.
W13-1 (XX MPH)**
LEFT LANE CLOSED ½ MILE
W20-5L (1/2 MILE)
ROAD WORK 1 MILE
W20-1 (1 MILE)
W4-2L
W20-5L (1500 FT)
LEFT LANE CLOSED 1500FT
W13-1 (XX MPH)**
W20-5L (1/2 MILE)
LEFT LANE CLOSED ½ MILE
W20-1 (1 MILE)
ROAD WORK 1 MILE
STATION NO. AS SHOWN ON PLANS
VARIABLE MEDIAN WIDTH
DETAIL OF TEMPORARY CROSSOVER
NOTE: R = 0.5 MEDIAN WIDTH
8" SERIES "C" LETTERS
TRUCKS TURNING LEFT
DETAIL OF W20-5D


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL PLANS
UNEVEN PAVEMENT
DETAILS
WORKING NUMBER
TCP-12
SHEET NUMBER
6362
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
GENERAL NOTES:
1. UNEVEN LANE LINE:
A. IF LESS THAN OR EQUAL TO 1½", NO SIGNS REQUIRED.
B. IF GREATER THAN 1½" AND LESS THAN OR EQUAL TO 2¼", PLACE SIGNS AS SHOWN ON THIS SHEET.
C. IF GREATER THAN 2¼", TRAFFIC SHOULD NOT BE ALLOWED TO CROSS UNEVEN LANE LINE.
2. THE W8-11 SIGNS SHOULD BE SPACED AT ¼-MILE INTERVALS THROUGHOUT UNEVEN LANE LINE LIMITS.
3. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER MAINTENANCE OF TRAFFIC.
TWO-WAY TRAFFIC
ONE-WAY TRAFFIC
UNEVEN LANES
W8-11
36 X 36
48 X 48
¼ MILE

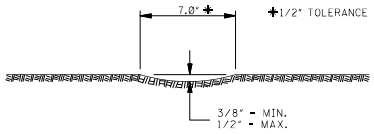

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TEMPORARY STRIPING FOR TRAFFIC CONTROL 2-LANE AND 4-LANE DIVIDED HIGHWAYS
WORKING NUMBER TCP-13
SHEET NUMBER 6363
ISSUE DATE: MAY 01, 2017
DATE
REVISION
BY
GENERAL NOTES:
* 1. 3" UNLESS SHOWN ELSEWHERE ON THE PLANS.
** 2. EDGE STRIPE SHALL BE SAME MATERIAL AS LANE-LINE STRIPE (PAINT OR TAPE AS INDICATED IN "PAY" ITEMS).
3. REFLECTIVE RAISED PAVEMENT MARKERS TO BE USED IF TEMPORARY MARKINGS ARE TO REMAIN IN PLACE OVER 3 MONTHS
*** 4. SPACING OF REFLECTIVE RAISED PAVEMENT MARKERS IS AS FOLLOWS:
URBAN AREA (FT-IN) | RURAL AREA (FT-IN)
TANGENT SECTIONS 40'-0" 80'-0"
HORIZONTAL CURVES 40'-0" 40'-0"
INTERCHANGE LIMITS 40'-0" † 40'-0"
† NOTE: ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 100'-0" IN ADVANCE OF THE BEGINNING OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
5. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."
TWO-WAY TRAFFIC
(ASPHALT OR CONCRETE PAVEMENT)
TWO-WAY REFLECTIVE YELLOW RAISED PAVEMENT MARKERS
4" CONTINUOUS YELLOW
4" SKIP YELLOW (* *)
4" CONTINUOUS WHITE EDGE STRIPE (* *)
YELLOW (* *)
℄ JOINT
TRAFFIC
DETAIL "A"
OMIT BROKEN LINE STRIPING
PAY LENGTH
OUTSIDE EDGE OF TRAVEL LANE
DIRECTION OF TRAFFIC
DETAIL "A"
4-LANE WITH ONE-WAY TRAFFIC
REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS
4" SKIP WHITE
4" CONTINUOUS YELLOW EDGE STRIPE
MEDIAN EDGE OF TRAVEL LANE


STATE MISS.
PROJECT NO.
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 4-LANE SECTION
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 5-LANE SECTION
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS AT LEFT TURN LANES
*NOTE: USE DETAIL STRIPING IF LENGTH ≤ 150' AT THIS LOCATION, OTHERWISE USE CONTINUOUS STRIPING.
TYPICAL TWO-WAY ARROW INSTALLATION
NOTES: 1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.
2. IF SEGMENT IS LESS THAN 350', PLACE ONE SET OF ARROWS IN CENTER OF SEGMENT.
3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50' TO 100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS @250' O.C.
DETAIL A LATERAL PLACEMENT OF PAVEMENT MARKERS
DETAIL B LATERAL PLACEMENT OF PAVEMENT MARKERS
DETAIL OF TEMPORARY TURN ARROW
GENERAL NOTE:
1. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS".
2. REFLECTIVE RAISED PAVEMENT MARKERS TO BE USED IF TEMPORARY MARKINGS ARE TO REMAIN IN PLACE OVER 3 MONTHS
3. TEMPORARY TURN ARROW TO BE PAID FOR AS TEMPORARY TRAFFIC STRIPE (LEGEND), ESTIMATED AT 10.9 SQ. FT. PER ARROW
BY
REVISION
DATE
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TEMPORARY STRIPING FOR TRAFFIC CONTROL 4-LANE AND 5-LANE UNDIVIDED ROADWAYS
WORKING NUMBER TCP-14
ISSUE DATE: MAY 01, 2017
SHEET NUMBER 6364

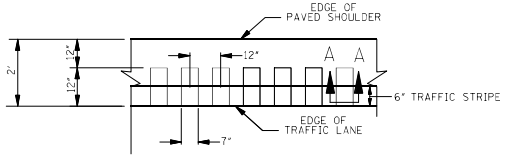

STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
LOCATION OF R16-3 SIGNS (SPEEDING FINES DOUBLED)
WORKING NUMBER TCP-15
SHEET NUMBER 6365
ISSUE DATE: MAY 01, 2017
DATE BY REVISION
G20-1 MOUNTED ON TYPE III BARRICADE (SINGLE FACED) (6' WIDE)
G20-2 MOUNTED ON TYPE III BARRICADE (SINGLE FACED) (6' WIDE)
R16-3
LOCAL RD.
250'
DIVIDED HIGHWAY SHOWN
(2 LANE – 2 WAY ROADWAY SIMILAR)
(PROJECT MORE THAN 1 MILE LENGTH)
1500'
ENTRANCE RAMP
EXCHANGE RAMP
INTERCHANGE DETAIL
NOTES:
1. R16-3 SIGN TO BE PLACED AS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. R16-3 SIGN SHOULD BE SPACED AT A MAXIMUM OF 2 MILES THROUGHOUT LENGTH OF PROJECT.
3. THIS SHEET WILL ONLY APPLY TO SPEED REDUCTION SECTIONS.
WHEN WORKERS ARE PRESENT
SPEEDING FINES DOUBLED
ORANGE/BLACK
WHITE/BLACK
48" x 60" (INTERSTATE USE)
36" x 48" (ALL OTHER HIGHWAYS)
R16-3


STATE MISS.
PROJECT NO.
WORK ZONE
2'-6"
FREE STANDING PLASTIC DRUMS
3" MAX
4:1 OR FLATTER SLOPE
EXISTING PAV'T
ORIGINAL GROUND LINE
GRANULAR MATERIAL REQUIRED (SAME CLASSIFICATION AS SHOULDER MATERIAL. SEE TYPICAL SECTIONS)
DETAIL OF DRUM PLACEMENT AT PAVEMENT EDGE DROP-OFF
NOTES:
* A. PAVEMENT EDGE DROP-OFF
1. IF LESS THAN TWO AND ONE QUARTER (2.25) INCHES=NO PROTECTION REQUIRED. PLACE A SHOULDER WORK SIGN (W21-5) 500 FEET IN ADVANCE OF WORK ZONE SHOULDER AND A LOW SHOULDER SIGN (W8-9) AT THE BEGINNING AND THROUGHOUT THE WORK ZONE @ (750'+-C.C.).
2. TWO AND ONE QUARTER TO THREE INCHES=PLACE DRUMS, VERTICAL PANELS OR BARRICADES EVERY 100 FEET ON TANGENT SECTIONS FOR SPEEDS OF 50 MILES PER HOUR OR GREATER. CONES MAY BE USED IN PLACE OF DRUMS, PANELS, AND BARRICADES DURING DAYLIGHT HOURS. FOR TANGENT SECTIONS WITH SPEEDS LESS THAN 50 MILES PER HOUR AND FOR CURVES, DEVICES SHOULD BE PLACED EVERY 50 FEET. SPACING FOR TAPERS SHOULD BE IN ACCORDANCE WITH THE M.U.T.C.D. (L / 3 L, WHERE L IS THE TAPER LENGTH IN FEET.)
3. GREATER THAN THREE (3) INCHES=POSITIVE SEPARATION OR WEDGE WITH 4:1 OR FLATTER SLOPE NEEDED. IF THERE IS EIGHT (8) FEET OR MORE DISTANCE BETWEEN THE EDGE OF TRAVEL LANE AND DROP-OFF, THEN DRUMS, PANELS OR BARRICADES MAY BE USED.
4. FOR TEMPORARY CONDITIONS, DROP-OFFS GREATER THAN THREE (3) INCHES MAY BE PROTECTED WITH DRUMS, VERTICAL PANELS OR BARRICADES FOR SHORT DISTANCES DURING DAYLIGHT HOURS WHILE WORK IS BEING DONE IN THE DROP-OFF AREA.
5. LESSER TREATMENTS THAN THOSE DESCRIBED ABOVE MAY BE CONSIDERED FOR LOW-VOLUME LOCAL STREETS.
B. DRUM SPACING
1. TANGENTS = 2 X S
2. TAPERS = L / 3
WHERE L = S X W
L = TAPER LENGTH IN FEET
S = SPEED IN MPH (POSTED OR 85 PERCENTILE)
W = WIDTH OF OFFSET IN FEET
C. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER MAINTENANCE OF TRAFFIC.
TABLE VI-1, GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE
** SPEED (MPH) LENGTH (FEET)
20 35
25 55
30 85
35 120
40 160
45 230
50 280
55 335
60 410
65 485
** POSTED SPEED, OFF-PEAK 85 PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH.
PLASTIC DRUMS (SEE NOTE FOR SPACING)
500'
L / 3 L
LONGITUDINAL BUFFER SPACE (SEE TABLE VI-1)
WORK ZONE TAPER
VARIABLE
50' MIN.
SHOULDER WORK W21-5 48x48
TYPICAL SHOULDER CLOSURE
(1) TO BE USED WITH EIGHT (8) FOOT OR GREATER WIDTH IMPROVED SHOULDER.
(2) TO BE USED WHEN CONSTRUCTION VEHICLES (EQUIPMENT) ENCROACHES ON OR WITHIN TWO (2) FEET OF THE SHOULDER BREAK.
500'
750' ±O.C.
FROM BEGINNING TO THE END OF WORK ZONE
LOW SHOULDER W8-9 48x48
LOW SHOULDER W8-9 48x48
SHOULDER WORK W21-5 48x48
TYPICAL SHOULDER WORK #1 (SEE NOTE A-1 THIS SHEET)
PLASTIC DRUMS (SEE NOTE FOR SPACING)
750±
300'
WORK ZONE
VARIABLE
50' MIN.
W21-1a 36x36
OR
WORKERS W21-1 36x36
NOTE:
WORK OUTSIDE TWO (2) FOOT AND WITHIN TEN (10) FEET OF THE SHOULDER BREAK MAY BE PROTECTED BY PLACING DRUMS ALONG THE SHOULDER EDGE, 300 FEET PRIOR TO AND 50 FEET BEYOND THE WORK AREA, OR SEE NOTE A-3 THIS SHEET.
TYPICAL SHOULDER WORK #2
BY
REVISION
DATE
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
TRAFFIC CONTROL DETAILS
DRUM PLACEMENT
AND
SHOULDER CLOSURE
ISSUE DATE: MAY 01, 2017
WORKING NUMBER TCP-16
SHEET NUMBER 6366

STATE	PROJECT NO.
MISS.	



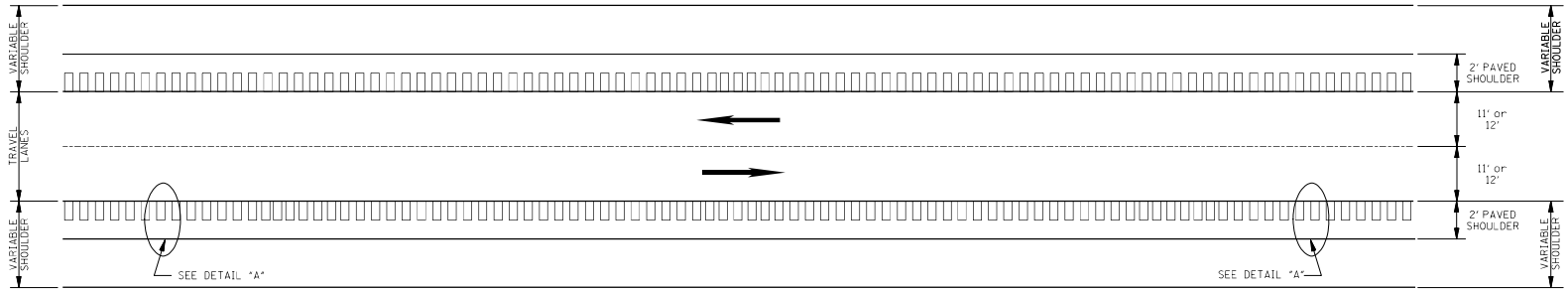
SECTION "A–A"



DETAIL "A"

GENERAL NOTES

1. GROUND-IN RUMBLE STRIPES SHALL BE APPLIED ON LEFT AND RIGHT SHOULDERS OF ALL PAVED SHOULDERS ON THIS PROJECT
2. GROUND-IN RUMBLE STRIPES SHALL BE OMITTED ACROSS PUBLIC INTERSECTING ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
3. COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
4. GROUND-IN RUMBLE STRIPES SHALL BE APPLIED TO:
   - A. MAINLINE
   - B. INTERSECTING ROADWAY IF OVERLAID OR RECONSTRUCTED BEYOND NORMAL MAINLINE R.O.W.
   - C. ANY ROADWAY WITH EXISTING RUMBLE STRIPES PRIOR TO CONSTRUCTION.
5. DO NOT USE WHERE TRAVEL LANE IS LESS THAN 11' WIDE.



PLAN

NOT TO SCALE

DATE	REVISION	BY
2/8/21	REVISED STRIPE LOCATION	DSP

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

RUMBLE STRIPES
2-LANE HIGHWAYS
(ASPHALT LANES,
2-FT ASPHALT SHOULDERS)

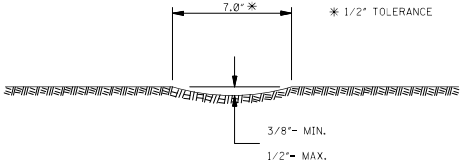
ISSUE DATE: AUGUST 01, 2017

MDOT
WORKING NUMBER
RS-1
SHEET NUMBER
6064

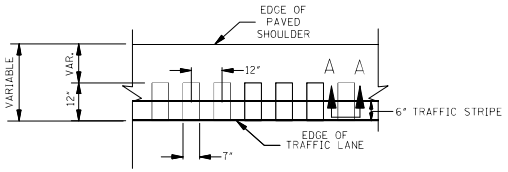
STATE	PROJECT NO.
MISS.	

GENERAL NOTES

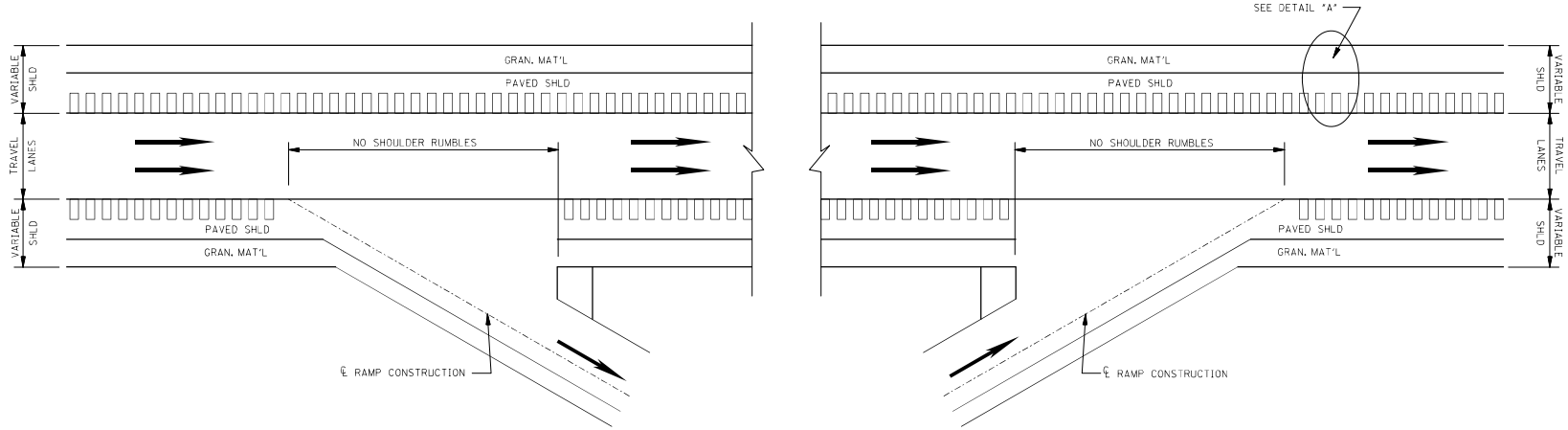
1. GROUND-IN RUMBLE STRIPES SHALL BE APPLIED ON LEFT AND RIGHT SHOULDERS OF ALL PAVED SHOULDERS ON THIS PROJECT
2. GROUND-IN RUMBLE STRIPES SHALL BE OMITTED ACROSS PUBLIC INTERSECTING ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
3. COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
4. GROUND-IN RUMBLE STRIPES SHALL BE APPLIED TO:
   - A. MAINLINE
   - B. INTERSECTING ROADWAY IF OVERLAID OR RECONSTRUCTED BEYOND NORMAL MAINLINE R.O.W.
   - C. ANY ROADWAY WITH EXISTING RUMBLE STRIPES PRIOR TO CONSTRUCTION.



SECTION "A–A"



DETAIL "A"



PLAN

NOT TO SCALE

DETAILS OF RUMBLE STRIPS

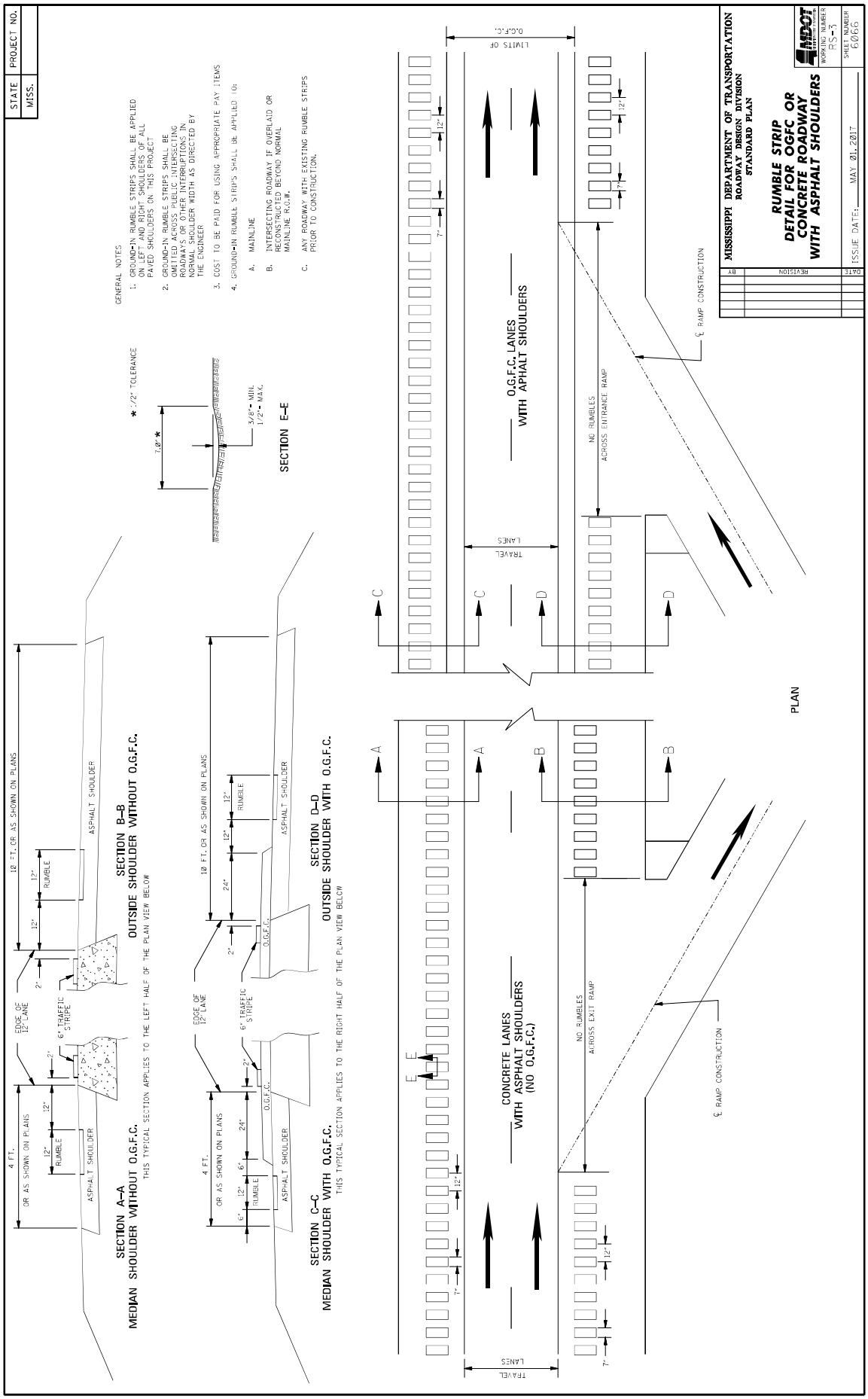
DATE	REVISION	BY
2/8/21	REVISED STRIPE LOCATION	DSP

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

RUMBLE STRIPES 4-LANE HIGHWAYS (ASPHALT LANES, 2-FT OR WIDER ASPHALT SHOULDERS)

ISSUE DATE: AUGUST 01, 2017

MDOT
DRAWING NUMBER
RRS-2
SHEET NUMBER
6065


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
RUMBLE STRIP DETAIL FOR OGFC OR CONCRETE ROADWAY WITH ASPHALT SHOULDERS
WORKING NUMBER RS-3
SHEET NUMBER 6066
ISSUE DATE: MAY 01, 2017
DATE REVISION BY
GENERAL NOTES
1. GROUND-IN RUMBLE STRIPS SHALL BE APPLIED ON LEFT AND RIGHT SHOULDERS OF ALL PAVED SHOULDERS ON THIS PROJECT
2. GROUND-IN RUMBLE STRIPS SHALL BE OMITTED ACROSS PUBLIC INTERSECTING ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
3. COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
4. GROUND-IN RUMBLE STRIPS SHALL BE APPLIED TO:
A. MAINLINE
B. INTERSECTING ROADWAY IF OVERLAID OR RECONSTRUCTED BEYOND NORMAL MAINLINE R.O.W.
C. ANY ROADWAY WITH EXISTING RUMBLE STRIPS PRIOR TO CONSTRUCTION.
* 1/2" TOLERANCE
7.0"*
3/16" - MIN.
1/2" - MAX.
SECTION E–E
SECTION A–A
MEDIAN SHOULDER WITHOUT O.G.F.C.
THIS TYPICAL SECTION APPLIES TO THE LEFT HALF OF THE PLAN VIEW BELOW
SECTION B–B
OUTSIDE SHOULDER WITHOUT O.G.F.C.
SECTION C–C
MEDIAN SHOULDER WITH O.G.F.C.
THIS TYPICAL SECTION APPLIES TO THE RIGHT HALF OF THE PLAN VIEW BELOW
SECTION D–D
OUTSIDE SHOULDER WITH O.G.F.C.
4 FT. OR AS SHOWN ON PLANS
10 FT. OR AS SHOWN ON PLANS
EDGE OF 12" LANE
6" TRAFFIC STRIPE
12" RUMBLE
ASPHALT SHOULDER
24"
6"
O.G.F.C.
PLAN
CONCRETE LANES WITH ASPHALT SHOULDERS (NO O.G.F.C.)
O.G.F.C. LANES WITH APHALT SHOULDERS
NO RUMBLES ACROSS EXIT RAMP
NO RUMBLES ACROSS ENTRANCE RAMP
℄ RAMP CONSTRUCTION
TRAVEL LANES
LIMITS OF O.G.F.C.
7"
12"

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3676 **CODE: (SP)**

DATE: 09/21/2021

SUBJECT: Asphalt Gyratory Compactor Internal Angle Calibration

Bidders are advised that by March 1, 2022, all asphalt gyratory compactors shall be calibrated to an internal angle of 1.16° ±0.02°. This requirement will be reflected in updates made to MT-78, MT-80, and MT-83. This calibration requirement also extends to all QC/QA testing.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4109 **CODE: (SP)**

DATE: 3/11/2022

SUBJECT: Contract Time

PROJECT: MP-6063-20(017) / 307910301 – George 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 **May 10, 2022**.

The Contractor shall request a Notice to Proceed/Beginning of Contract Time date between the dates of **June 9, 2022 and July 14, 2022**.

Should the Contractor request a Notice to Proceed earlier than **June 9, 2022** and it is agreeable with the Department for an early Notice to Proceed, the requested date will become the new Notice to Proceed and Beginning of Contract Time date.

Should the Contractor not request a Notice to Proceed by **July 14, 2022**, the date for the Notice to Proceed and Beginning of Contract Time will be **July 14, 2022**.

All requests for an early Notice to Proceed shall be sent to the Project Engineer who will forward it to the Contract Administration Division.

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

The progress schedule for this project shows the Notice to Proceed and Beginning of Contract Time starting at the latest possible date. If the Contractor requests a Notice to Proceed earlier than this date, the Contractor shall submit a revised progress schedule showing the work beginning at the new Notice to Proceed and Beginning of Contract Time date.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4110 **CODE: (SP)**

DATE: 03/01/2022

SUBJECT: Scope of Work

PROJECT: MP-6063-20(017) / 307910301 – George 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".

Work on the project shall consist of the following:

RESURFACING APPROXIMATELY 8.8 MILES OF SR 63
FROM SALLY PARKER ROAD TO THE JUNCTION OF US 98

GENERAL CONDITIONS

Prior to the overlay, centerline alignment shall be determined by the Contractor by measuring the existing roadway at 500-foot intervals in tangent sections and 100-foot intervals in horizontal curves.

A uniform cross slope of ±2% in tangent sections and correction/maintenance of super elevation in the curves is required. Super-elevation rates shall be in accordance with the Standard Drawings.

Temporary stripe along the mainline, as well as temporary detail stop bars of all intersecting local roads shall be placed on the asphalt surface upon the completion of each lift of mainline operations. Temporary and permanent striping shall be placed where existing stripes are located, and shall conform to finished stripe specifications for alignment, neatness, reflectivity, and straightness. All permanent pavement markings on asphalt are to be hot thermoplastic. Edge lines will be placed so as to maintain the original lane width.

It shall be the responsibility of the Contractor to protect existing structures such as pipes, inlets, bridges, aprons, etc. from damage which might occur during construction. The Contractor shall replace or repair, as directed by the Project Engineer, any structures damaged by the Contractor during the life of the contract. No payment will be made for the replacement or repair of damaged items.

The Contractor shall erect and maintain construction signing, and provide all signs and traffic handling devices in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

Incidental work such as removing vegetation, shaping and compaction of shoulder, removing excess asphalt material, project clean-up, and other incidental work necessary to complete the project will not be measured for separate payment, but will be included in other bid items.

If pavement section marking tape is encountered on this project, it shall be located prior to overlaying and placed back in same location after paving operations have ceased. The section marking shall be 8-inch high performance cold plastic detail stripe and shall be four feet (4') in length. The marking shall be centered across the centerline stripe. The cost of this item shall be absorbed in other bid items.

MDOT shall retain 50% or 10,000 tons of the reclaimed asphalt pavement, whichever is less. The Contractor shall haul the RAP to the MDOT Maintenance Headquarters at 12128 Highway 26 West, Lucedale, MS 39452.

Drainage Items

The Contractor shall reconstruct inlet aprons as follows:

- Excavate around existing inlets, a maximum of four feet (4'), to expose where the inlet is leaking. Excavation for item of work shall be absorbed in other bid items. The removal of existing apron shall be absorbed in other items bid.
- Patch leaking area in inlet or pipe.
- Back fill with flowable fill.
- Construct new paved apron.
- Grade and place sod around paved apron.

Station	Roadway	Inlet
387+25	SR 63	MI-1
398+25	SR 63	MI-1
408+75	SR 63	MI-2
459+00	SR 63	MI-1
468+50	SR 63	MI-3
490+00	SR 63	MI-3
500+26	SR 63	MI-2
547+55	SR 63	MI-2
566+00	SR 63	MI-4A
570+40	SR 63	MI-4A
88+50	SE Ramp 26	MI-1
89+50	SW Ramp 26	MI-1
621+00	SR 63	MI-1
645+00	SR 63	MI-2
649+00	SR 63	MI-2
682+00	SR 63	MI-3
658+50	SR 63	MI-1
707+85	SR 63	MI-3

749+05	SR 63	MI-2
760+30	SR 63	MI-2A
790+90	SR 63	MI-2
794+60	SR 63	MI-2
809+00	SR 63	MI-4
820+67	SR 63	MI-2

Pavement, Milling, Guardrail, & Crushed Stone Items

1) Prior to overlay of SR 63, a leveling course of 3/4" and variable of Ultra-Thin Asphalt Pavement, shall be placed in order to achieve a uniform cross slope of 2% in tangent sections, and to correct/maintain super-elevation in curves. (13,553 Tons).

2) Prior to overlay of SR 63, trench widening of 2 feet wide by 3 inches deep shall be performed on both sides of all crossovers. The cost of trenching shall be absorbed in other items of work. The trench shall be filled with 3" of 9.5-mm, ST, asphalt. The Contractor shall complete the trench widening operation in concurrence with the leveling lift as outlined in part 3).

3) Prior to overlay of SR 63, a leveling course of 3/4" and variable of 9.5-mm, ST, Leveling asphalt shall be placed on all crossovers. The leveling lift shall be placed in concurrence with the trench widening as outlined in part 2). (2071 Tons).

4) The roadway shall be cold milled to a depth of 1¼" for a minimum 125-foot transition at the project limits.

5) The roadway shall be cold milled at the bridge ends to a depth of 1¼" for a 125-foot transition. This is for the six bridges south of US 98. (4,668 SY)

6) The roadway shall be cold milled at the bridge ends at US 98 to a depth of 1¼" for 500 feet. This shall include the turn lanes through the median. (6,224 SY for the mainline and 1,856 SY for the median turn lanes)

7) SR 63 shall be overlaid with 1¼" of 9.5-mm, MT, asphalt. (22,589 Tons)

8) Crossovers shall be overlaid with 1¼" of 9.5-mm, ST, asphalt. (Crossovers – 2537 Tons)

9) All channelized intersections, curb and gutter sections, on/off ramp tie-ins, local road tie-ins (to state R.O.W. or as directed by the Engineer), and areas designated by the Project Engineer shall be cold milled 1½" and variable to ensure smooth transition of new overlay with existing grade. (15,117 SY)

10) Paved shoulders, on/off ramps, local roads and driveway pads shall be overlaid with 1½" and variable 9.5-mm, ST, asphalt. Local roads shall be resurfaced to the existing R.O.W.; privately owned entrances shall be surfaced a distance of 10 feet and variable from edge of pavement. Any site grading at local roads or drives will not be measured for separate

payment but will be considered an absorbed item. (Shoulders & Ramps – 5,076 Tons)(Local Roads – 1,394 Tons)(Driveways – 124 Tons).

11) Guardrail including bridge end section, post, and terminal end section shall be removed.

12) Guardrail pads shall be cold milled to a depth of 1½". (6,231 SY)

13) Guardrail pads shall be overlaid with 1½" of 9.5-mm, ST, asphalt. (567 Tons)

14) New guardrail shall be placed.

15) All existing shoulders shall be raised to match the new pavement elevation by placing Crushed Stone. Placement of crushed stone shall be permitted only on shoulders that require a lift in elevation and have no curb and gutter. The shoulder material shall be blended, bladed, rolled, and compacted to a finished slope of 4% (absorbed) where practical.

16) Rumble strips shall be installed.

17) If water stands when project is complete, the Contractor shall correct at no additional cost to the State.

Pavement Marking Items

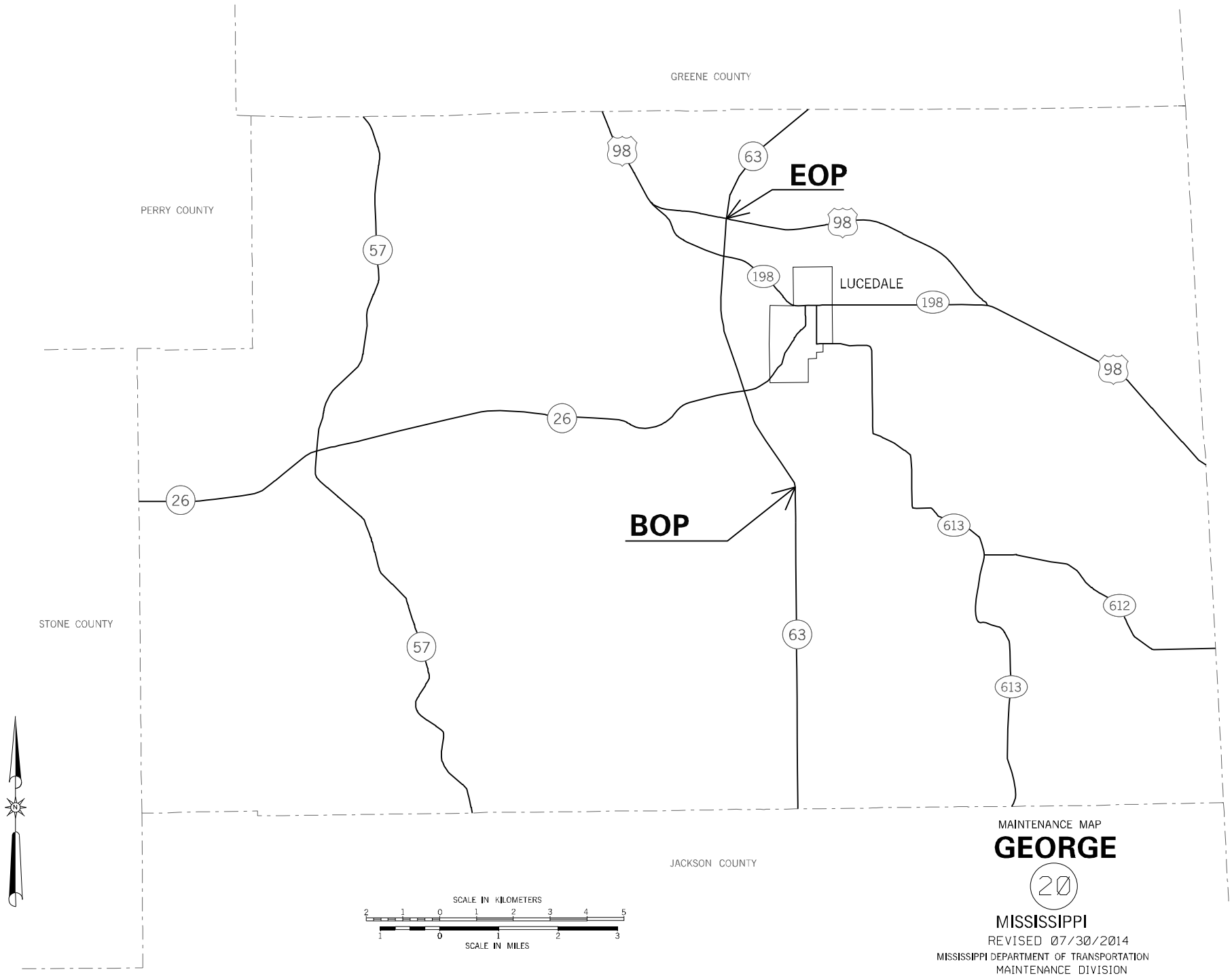
1) Temporary stripe shall be placed after each day's operation.

2) Existing striping along bridges shall be removed and replaced with either Inverted Profile or Cold Plastic striping.

3) Raised pavement markers shall be placed along the centerline of roadway at 40-foot intervals. Only flexible adhesive meeting the requirements of Subsection 720.03.7.7 shall be used for placement of raised pavement markers.

4) Red/clear markers shall be placed along holding bars of turn bays at 20 feet centers. Two-Way Yellow markers shall be placed as shown on PM-1 and D6-1.

Notice to Bidders No. 4110 -- Cont'd.



MAINTENANCE MAP

GEORGE

20

MISSISSIPPI

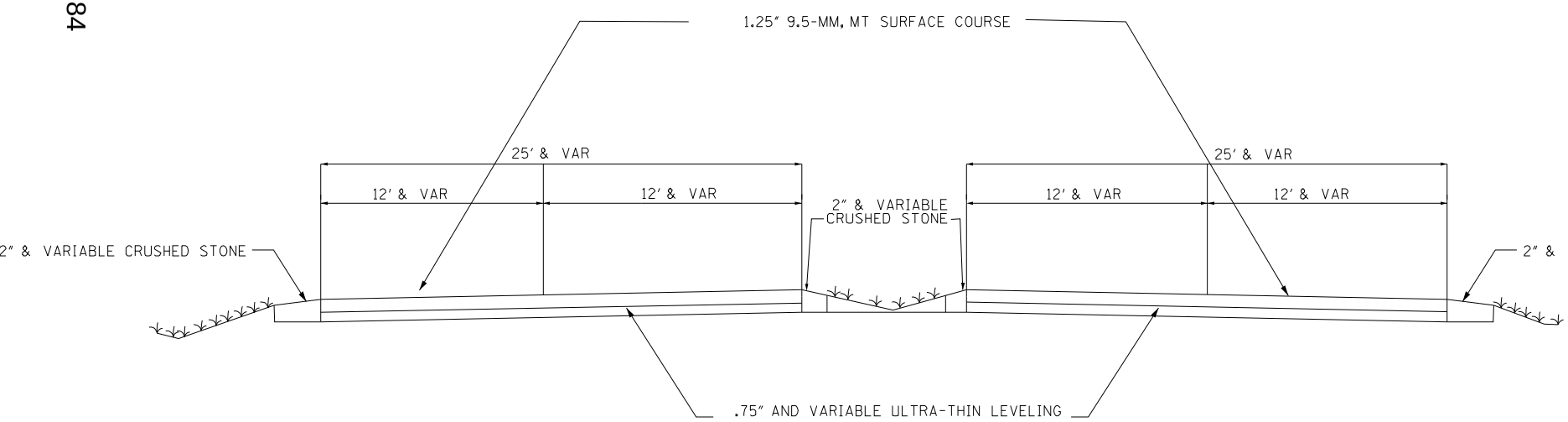
REVISED 07/30/2014

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
MAINTENANCE DIVISION

MP-6063-20(017) / 307910-301000

GEORGE COUNTY

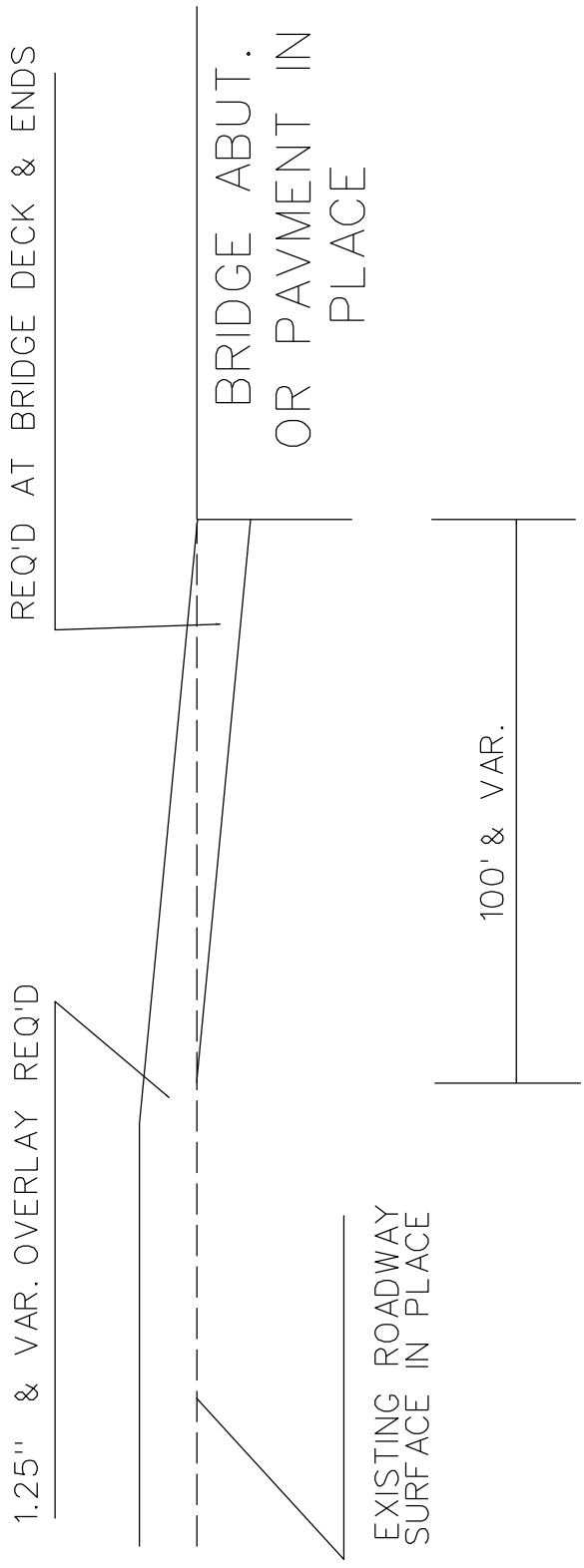
SR 63 FROM SALLY PARKER ROAD TO THE JUNCTION OF US 98



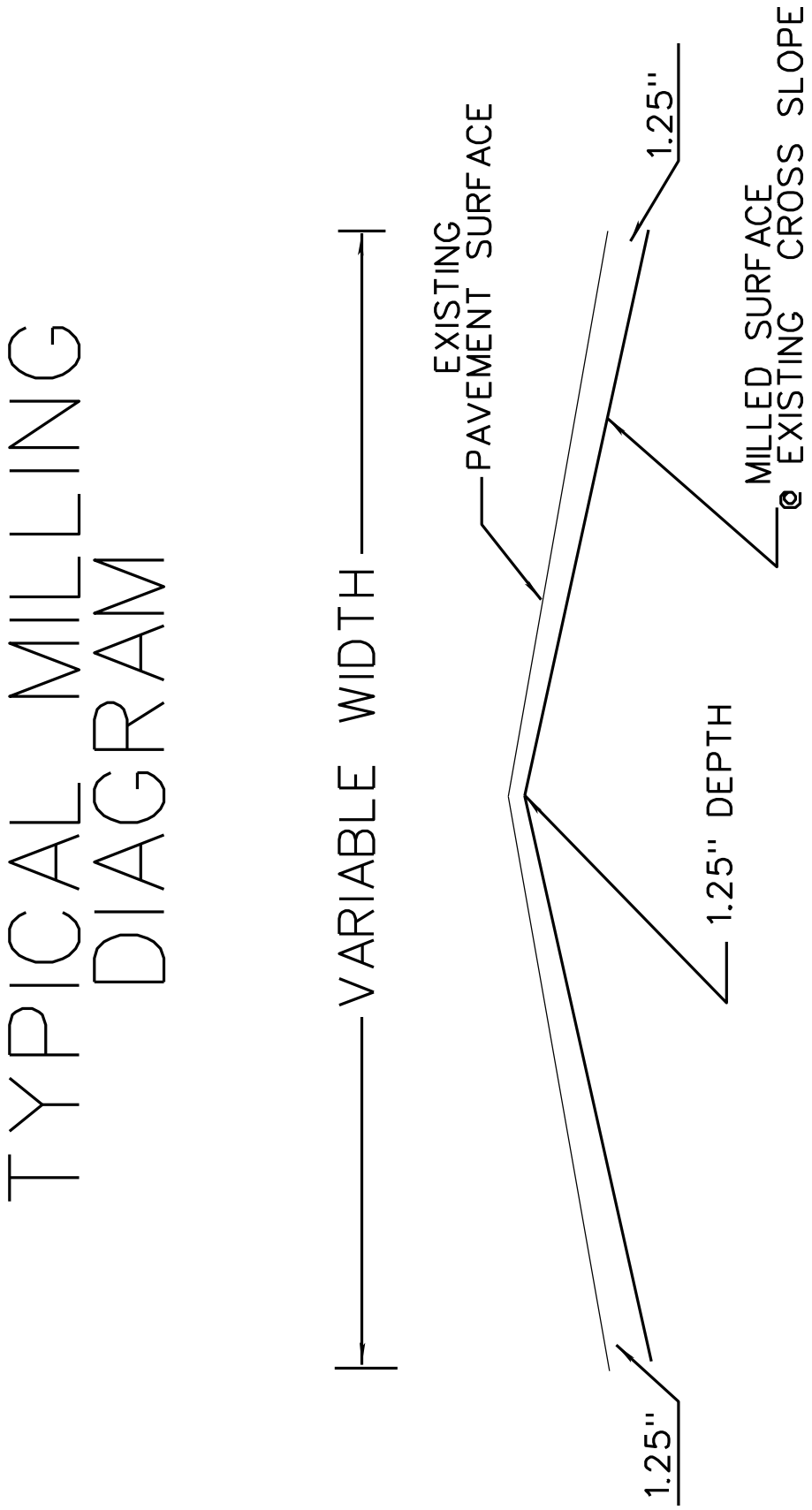
SR 63

TYPICAL SECTION

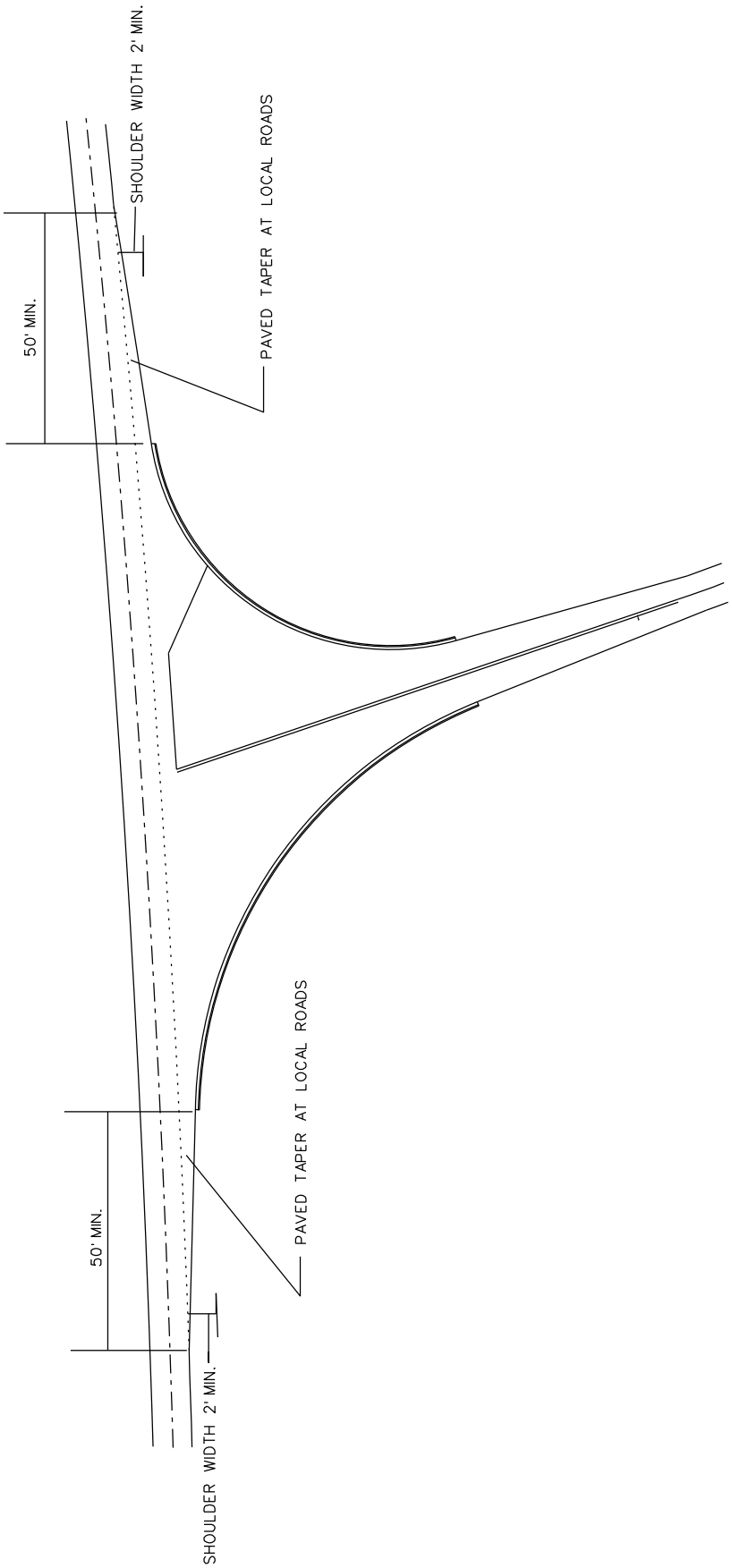
TYPICAL MILLED TRANSITION AT BRIDGE ABUT. OR PAVEMENT IN PLACE



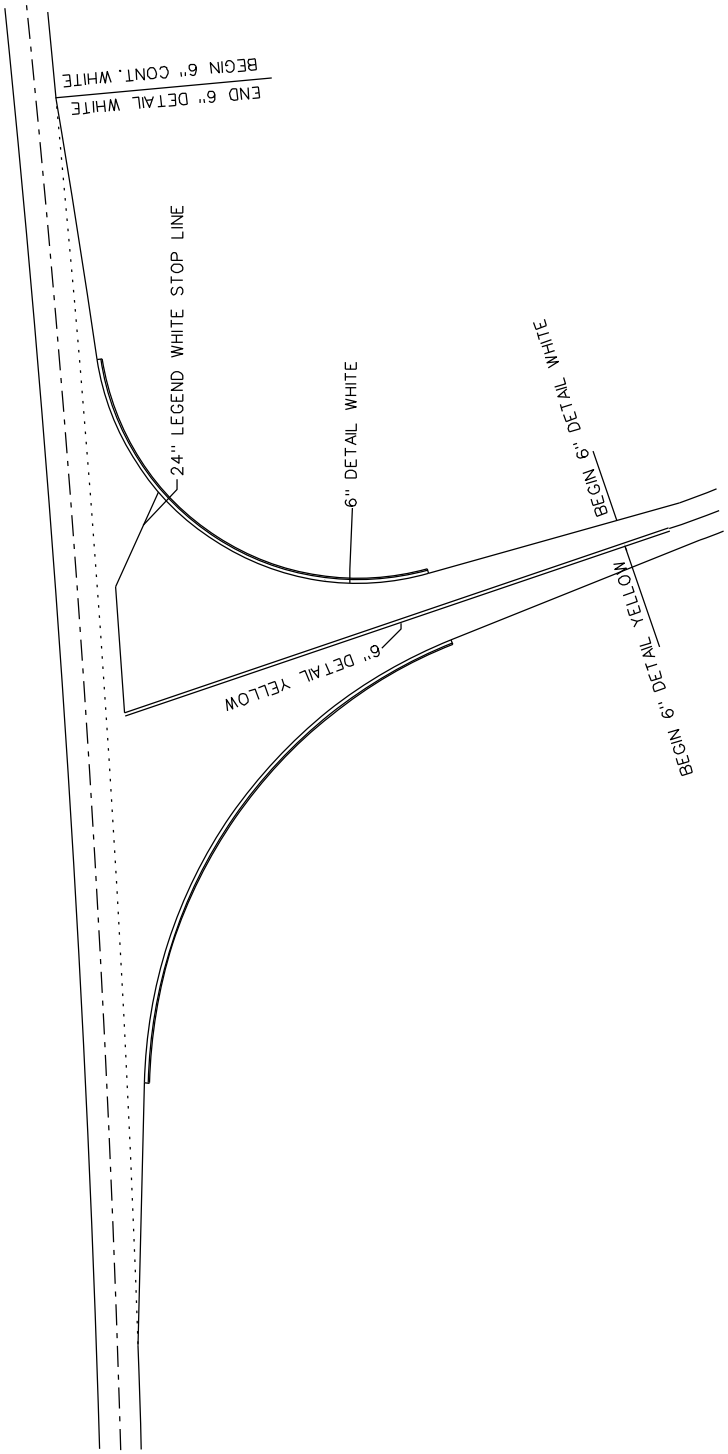
TYPICAL MILLING DIAGRAM



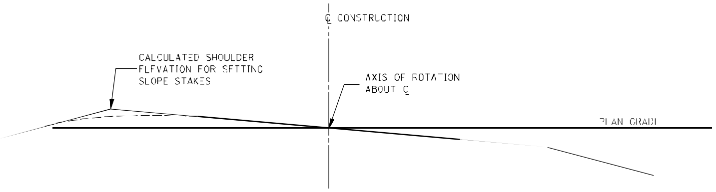
TYPICAL FOR PAVED TAPER AT LOCAL ROADS



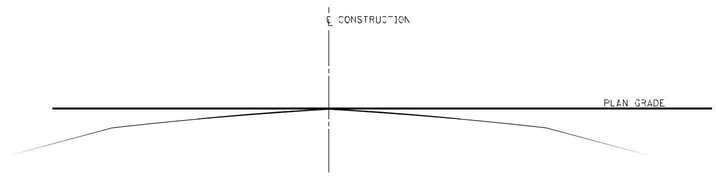
TYPICAL STRIPING FOR SIMPLE INTERSECTION AT LOCAL ROADS



STATE	PROJECT NO.
MISS.	



FULL SUPERELEVATED SECTION



NORMAL TANGENT SECTION

e	V = 30 mph	V = 35 mph	V = 40 mph	V = 45 mph
	R (ft)	R (ft)	R (ft)	R (ft)
NC	3130	4100	5230	6180
0.020	2240	2950	3770	4680
0.022	2000	2630	3370	4190
0.024	1790	2360	3050	3770
0.026	1610	2150	2740	3420
0.028	1460	1930	2490	3110
0.030	1320	1760	2270	2810
0.032	1200	1600	2080	2600
0.034	1080	1460	1900	2390
0.036	972	1320	1740	2190
0.038	864	1190	1590	2010
0.040	766	1070	1440	1840
0.042	684	960	1310	1680
0.044	615	868	1190	1540
0.046	555	788	1090	1410
0.048	502	718	995	1300
0.050	456	654	911	1190
0.052	413	595	833	1090
0.054	373	540	759	995
0.056	335	487	687	903
0.058	296	431	611	806
e_{max} = 0.060	R_{min} = 231	R_{min} = 340	R_{min} 485	R_{min} = 643

KEY:
V = DESIGN SPEED (mph)
R = RADIUS (ft)
e = FULL SUPERELEVATION RATE (ft/ft)
NC = NORMAL CROWN

*** EXTRA WIDTH TABLE FOR TRAVELED WAY**

RADIUS OF CURVE (ft)	TRAVELED WAY WIDTH = 24 ft				TRAVELED WAY WIDTH = 22 ft				TRAVELED WAY WIDTH = 20 ft			
	DESIGN SPEED (mph)				DESIGN SPEED (mph)				DESIGN SPEED (mph)			
	30	35	40	45	30	35	40	45	30	35	40	45
7000												
6500												
6000												
5500												2.0
5000											2.0	2.1
4500										2.0	2.1	2.1
4000									2.0	2.1	2.2	2.2
3500									2.1	2.2	2.3	2.4
3000									2.3	2.4	2.4	2.5
2500									2.5	2.6	2.7	2.8
2000							2.0	2.1	2.7	2.9	3.0	3.1
1800						2.0	2.1	2.3	2.9	3.0	3.1	3.3
1600					2.1	2.2	2.3	2.5	3.1	3.2	3.3	3.5
1400					2.3	2.5	2.6	2.7	3.3	3.5	3.6	3.7
1200				2.1	2.7	2.8	2.9	3.1	3.7	3.8	3.9	4.1
1000	2.1	2.3	2.4	2.6	3.1	3.3	3.4	3.6	4.1	4.3	4.4	4.6
900	2.4	2.6	2.7	2.9	3.4	3.6	3.7	3.9	4.4	4.6	4.7	4.9
800	2.7	2.9	3.1	3.3	3.7	3.9	4.1	4.3	4.7	4.9	5.1	5.3
700	3.2	3.4	3.6	3.8	4.2	4.4	4.6	4.8	5.2	5.4	5.6	5.8
600	3.8	4.0	4.2	4.4	4.8	5.0	5.2	5.4	5.8	6.0	6.2	6.4
500	4.6	4.9	5.1	5.3	5.6	5.9	6.1	6.3	6.6	6.9	7.1	7.3
450	5.2	5.4	5.7		6.2	6.4	6.7		7.2	7.4	7.7	
400	5.9	6.1	6.4		6.9	7.1	7.4		7.9	8.1	8.4	
350	6.8	7.0	7.3		7.8	8.0	8.3		8.8	9.0	9.3	
300	7.9	8.2			8.9	9.2			9.9	10.2		
250	9.6				10.6				11.6			
200	12.0				13.0				14.0			

* NOTE: EXTRA WIDTH TO BE ADDED ON INSIDE OF CURVE. THE SPECIFIED EXTRA WIDTH TO BE ADDED AT UNIFORM RATE THROUGHOUT SUPERELEVATION RUNOFF (L). CENTERLINE STRIPE SHOULD EQUALLY DIVIDE SURFACED WIDTH.

GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO OR SLIGHTLY SMALLER THAN THE RADIUS OF THE CURVE.
2. THIS SHEET ONLY APPLIES TO LOCAL ROAD FACILITIES IN RESTRICTED LOCATIONS (V ≤ 45 mph).
3. IT IS SUGGESTED THAT BOTH SHOULDER GRADE & FORM GRADE CORRECTIONS FOR SUPERELEVATION RUNOFF BE DETERMINED GRAPHICALLY. USE STANDARD CROSS SECTION SHEET WITH HORIZONTAL SCALE 1"=20' AND VERTICAL SCALE 1"=1'. CONNECT CONTROL POINTS WITH FLEXIBLE CURVE. CORRECTIONS CAN BE READ AT ANY POINT.
4. STATE AID DIVISION: USE STANDARD SA-SE-1.
5. SEE SHEET SE-3A FOR RUNOFF VALUES.

BY	REVISION	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

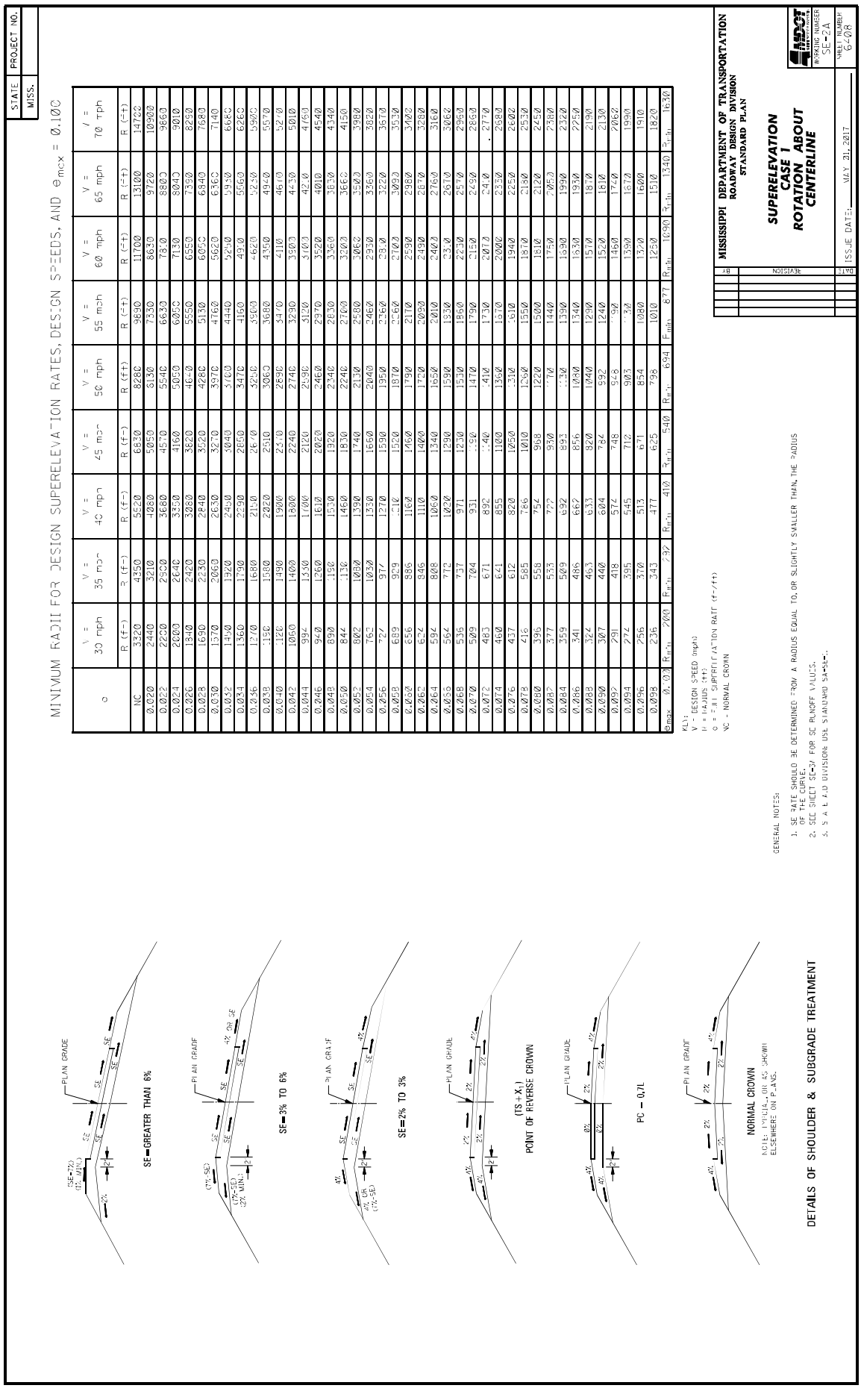
SUPERELEVATION TRANSITION FOR LOCAL FACILITIES (V </= 45 mph)

MDOT

WORKING NUMBER SE-1

SHEET NUMBER 6407

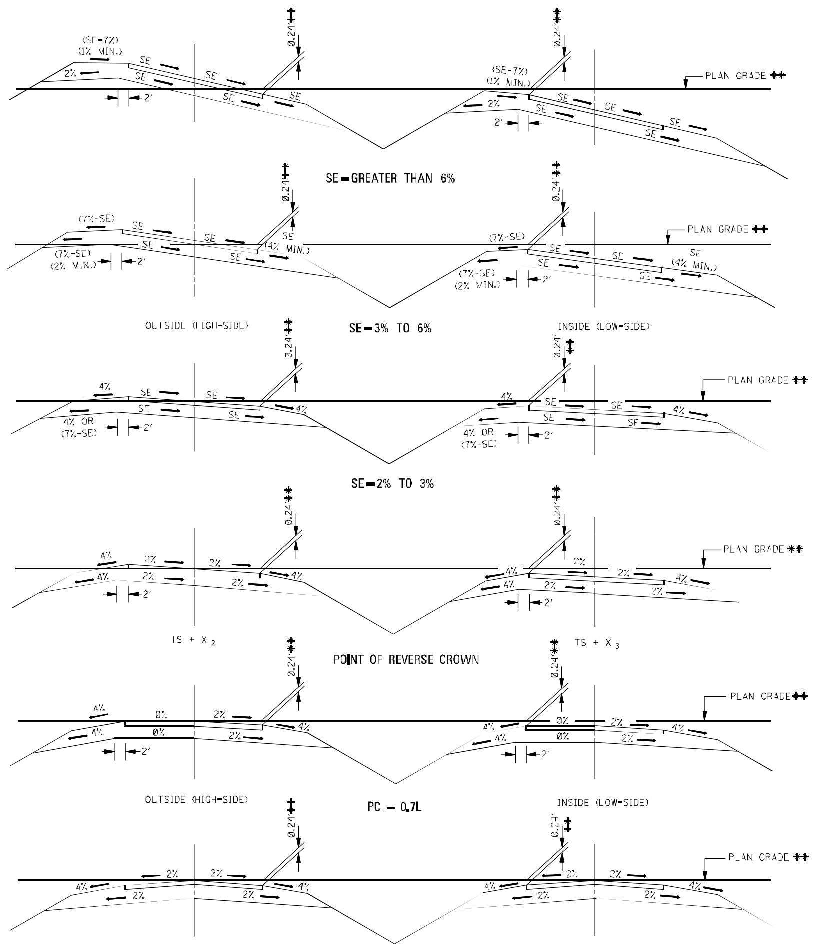
ISSUE DATE: MAY 31, 2017



e	V = 30 mph	V = 35 mph	V = 40 mph	V = 45 mph	V = 50 mph	V = 55 mph	V = 60 mph	V = 65 mph	V = 70 mph
	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)
NC	3320	4350	5620	6830	8280	9690	11700	13100	14700
0.020	2440	3210	4080	5050	6130	7330	8630	9720	10900
0.022	2250	2950	3680	4570	5540	6630	7810	8800	9860
0.024	2080	2640	3350	4160	5050	6050	7130	8040	9010
0.026	1940	2420	3080	3820	4640	5550	6550	7380	8290
0.028	1690	2230	2840	3520	4280	5130	6050	6840	7680
0.030	1570	2060	2630	3270	3970	4760	5620	6360	7140
0.032	1490	1920	2450	3040	3700	4440	5250	5950	6680
0.034	1360	1790	2290	2850	3470	4160	4910	5560	6260
0.036	1270	1680	2140	2660	3260	3900	4620	5240	5905
0.038	1190	1580	2020	2510	3060	3680	4350	4940	5570
0.040	1120	1490	1900	2370	2890	3470	4110	4670	5270
0.042	1060	1400	1800	2240	2740	3290	3900	4430	5010
0.044	992	1330	1700	2120	2590	3120	3700	420	4760
0.046	940	1260	1610	2020	2460	2970	3520	4010	4540
0.048	890	1190	1530	1920	2340	2830	3360	3830	4340
0.050	844	1130	1450	1830	2240	2700	3200	3660	4150
0.052	802	1070	1390	1740	2130	2580	3060	3500	3980
0.054	762	1020	1330	1660	2040	2460	2930	3360	3820
0.056	727	977	1270	1590	1950	2360	280	3220	3670
0.058	689	929	210	1520	1870	2260	2700	3090	3530
0.060	656	886	1160	1460	1790	2170	2590	2960	3400
0.062	622	846	1110	1400	1720	2090	2490	2870	3280
0.064	592	808	1060	1340	1650	2010	2400	2760	3160
0.066	564	772	1020	1290	1590	1930	230	2670	3062
0.068	536	737	971	1230	1530	1860	2230	2570	2960
0.070	509	704	931	1.20	1470	1790	2150	2480	2860
0.072	483	671	892	1.40	1410	1730	2070	24.0	2770
0.074	460	641	855	1100	1362	1670	2000	2320	2680
0.076	437	612	820	1060	312	1610	1940	2250	2602
0.078	416	585	786	1010	1260	1550	1870	2160	2530
0.080	396	558	752	968	1220	1500	1810	2120	2450
0.082	377	533	722	930	1.70	1440	1750	2053	2380
0.084	359	509	692	893	1.30	1390	1690	1990	2324
0.086	341	486	662	856	1080	1340	1630	1930	2250
0.088	324	463	633	820	1040	1290	1570	1870	2190
0.090	307	440	604	784	992	1240	1520	1810	2130
0.092	291	418	572	748	948	90	1460	1740	20.2
0.094	272	395	545	712	903	30	1390	1670	1940
0.096	256	370	513	671	854	1080	1320	1600	1910
0.098	236	343	477	625	798	1010	1250	1510	1820
emax = 0.10	Rmin = 200	Rmin = 292	Rmin = 410	Rmin = 540	Rmin = 694	Fmin = 877	Rmin = 1090	Rmin = 1340	Rmin = 1630

KEY:
V = DESIGN SPEED (mph)
R = RADIUS (ft)
e = FULL SUPERELEVATION RATE (ft/ft)
NC = NORMAL CROWN

STATE	PROJECT NO.
MISS.	



NOTE: TYPICAL, OR AS SHOWN ELSEWHERE ON THE PLANS.

++ THE 0.24 DIFFERENCE IN ELEVATION FROM PLAN GRADE LINE TO EDGE OF TRAVELED WAY IS BASED ON 12' TRAVEL LANES, 2% NORMAL CROWN SLOPE, AND THE LOCATION OF PLAN GRADE AT THE CENTERLINE OF ROADWAY. ALTHOUGH THE HORIZONTAL LOCATION OF PLAN GRADE AT THE CENTERLINE IS PREFERRED AND ILLUSTRATED ON THIS STANDARD DRAWING, PLAN GRADE LOCATION IS VARIABLE (i.e. PLAN GRADE AT THE MEDIAN EDGE OF TRAVEL LANE) AND SHOULD BE VERIFIED ON THE TYPICAL SECTION(S).

MINIMUM RADII FOR DESIGN SUPERELEVATION RATES, DESIGN SPEEDS, AND e_{max} = 0.100

e	V = 30 mph	V = 35 mph	V = 40 mph	V = 45 mph	V = 50 mph	V = 55 mph	V = 60 mph	V = 65 mph	V = 70 mph
	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)	R (ft)
NC	3320	4350	5520	6830	8280	9890	11700	13100	14700
0.020	2440	3210	4080	5050	6130	7330	8630	9720	10900
0.022	2200	2900	3680	4570	5540	6630	7810	8800	9860
0.024	2000	2640	3350	4160	5050	6050	7130	8040	9010
0.026	1840	2420	3080	3820	4640	5550	6550	7390	8290
0.028	1690	2230	2840	3520	4280	5130	6050	6840	7680
0.030	1570	2060	2630	3270	3970	4760	5620	6360	7140
0.032	1450	1920	2450	3040	3700	4440	5250	5930	6680
0.034	1360	1790	2290	2850	3470	4160	4910	5560	6260
0.036	1270	1680	2150	2670	3250	3900	4620	5230	5900
0.038	1190	1580	2020	2510	3060	3680	4350	4940	5570
0.040	1120	1490	1900	2370	2890	3470	4110	4670	5270
0.042	1060	1400	1800	2240	2740	3290	3900	4430	5010
0.044	994	1330	1700	2120	2590	3120	3700	4210	4760
0.046	940	1260	1610	2020	2460	2970	3520	4010	4540
0.048	890	1190	1530	1920	2340	2830	3360	3830	4340
0.050	844	1130	1460	1830	2240	2700	3200	3660	4150
0.052	802	1080	1390	1740	2130	2580	3060	3500	3980
0.054	762	1030	1330	1660	2040	2460	2930	3360	3820
0.056	724	974	1270	1590	1950	2360	2810	3220	3670
0.058	689	929	1210	1520	1870	2260	2700	3090	3530
0.060	656	886	1160	1460	1790	2170	2590	2980	3400
0.062	624	846	1110	1400	1720	2090	2490	2870	3280
0.064	594	808	1060	1340	1650	2010	2400	2760	3160
0.066	564	772	1020	1290	1590	1930	2310	2670	3060
0.068	536	737	971	1230	1530	1860	2230	2570	2960
0.070	509	704	931	1190	1470	1790	2150	2490	2860
0.072	483	671	892	1140	1410	1730	2070	2410	2770
0.074	460	641	855	1100	1360	1670	2000	2330	2680
0.076	437	612	820	1050	1310	1610	1940	2250	2600
0.078	416	585	786	1010	1260	1550	1870	2180	2530
0.080	396	558	754	968	1220	1500	1810	2120	2450
0.082	377	533	722	930	1170	1440	1750	2050	2380
0.084	359	509	692	893	1130	1390	1690	1990	2320
0.086	341	486	662	856	1080	1340	1630	1930	2250
0.088	324	463	633	820	1040	1290	1570	1870	2190
0.090	307	440	604	784	992	1240	1520	1810	2130
0.092	291	418	574	748	948	1190	1460	1740	2060
0.094	274	395	545	710	903	1130	1390	1670	1990
0.096	256	370	513	671	854	1080	1320	1600	1910
0.098	236	343	477	625	798	1010	1250	1510	1820
e_{max} 0.100	R_{min} 200	R_{min} 292	R_{min} 410	R_{min} 540	R_{min} 694	R_{min} 877	R_{min} 1090	R_{min} 1340	R_{min} 1630

KEY:
V - DESIGN SPEED (mph)
R = RADIUS (ft)
e = FULL SUPERELEVATION RATE (ft/ft)
NC = NORMAL CROWN

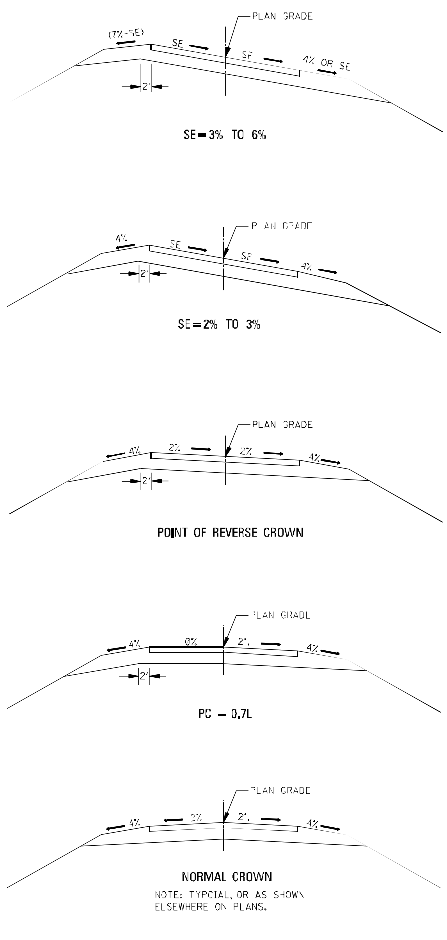
GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
2. SEE SHEET SE-3B FOR SE RUNOFF VALUES.

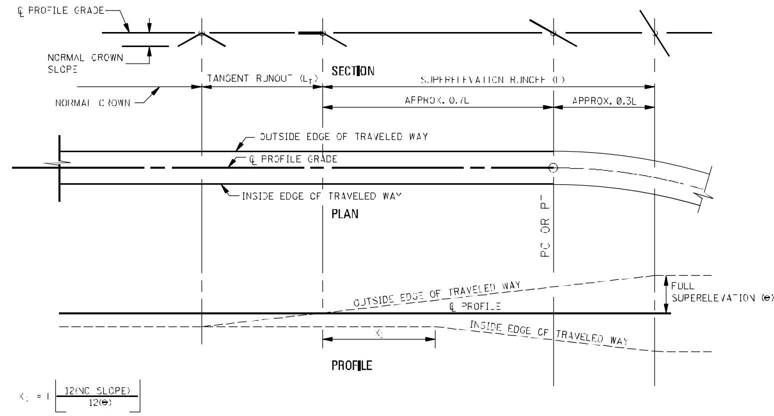
BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
REVISION	**SUPERELEVATION CASE II ROTATION ABOUT EDGE OF TRAVELED WAY**
DATE	ISSUE DATE: MAY 01, 2017

MDOT
WORKING NUMBER SE-2B
SHEET NUMBER 6409

STATE	PROJECT NO.
MISS.	



DETAILS OF SHOULDER TREATMENT



DIAGRAMMATIC PLAN AND PROFILE

V = 50 mph			
e	R (ft)	L(ft)	
		A	B
NC	7870	0	0
0.020	5700	48	72
0.022	5100	53	79
0.024	4600	58	86
0.026	4170	62	94
0.028	3800	67	101
0.030	3480	72	108
0.032	3200	77	115
0.034	2940	82	122
0.036	2710	86	130
0.038	2490	91	137
0.040	2300	96	144
0.042	2110	101	151
0.044	1940	106	158
0.046	1780	110	166
0.048	1640	115	173
0.050	1510	120	180
0.052	1390	125	187
0.054	1280	130	194
0.056	1160	134	202
0.058	1040	139	209
e_{max} = 0.060	R_{min} = 833	144	216

KEY:
- V = DESIGN SPEED (mph)
- R = RADIUS OF CURVE (ft)
- e = FULL SUPERELEVATION RATE (ft/ft)
- L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft)
- A = "L" FOR 1-LANE WIDTH OF ROTATION
- B = "L" FOR 2-LANE WIDTH OF ROTATION
- NC = NORMAL CROWN

V = 50 mph	
L_T(ft)	
A	B
48	72

KEY:
- V = DESIGN SPEED (mph)
- L_T = MINIMUM LENGTH OF TANGENT RUNOUT
- A = "L" FOR 1-LANE WIDTH OF ROTATION
- B = "L" FOR 2-LANE WIDTH OF ROTATION

GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
2. STATE-AID DIVISION: USE STANDARD SA-SE-1.
3. "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:
   FOR ROTATING ABOUT THE CENTER OF A TWO-WAY LEFT-TURN LANE (i.e., A 5-LANE SECTION): L=(1.20)(L IN COLUMN B)
   FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (1.33)(L IN COLUMN B)
   FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (1.67)(L IN COLUMN B)
4. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "LT" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
5. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

SUPERELEVATION TRANSITION CASE I ROTATION ABOUT CENTERLINE

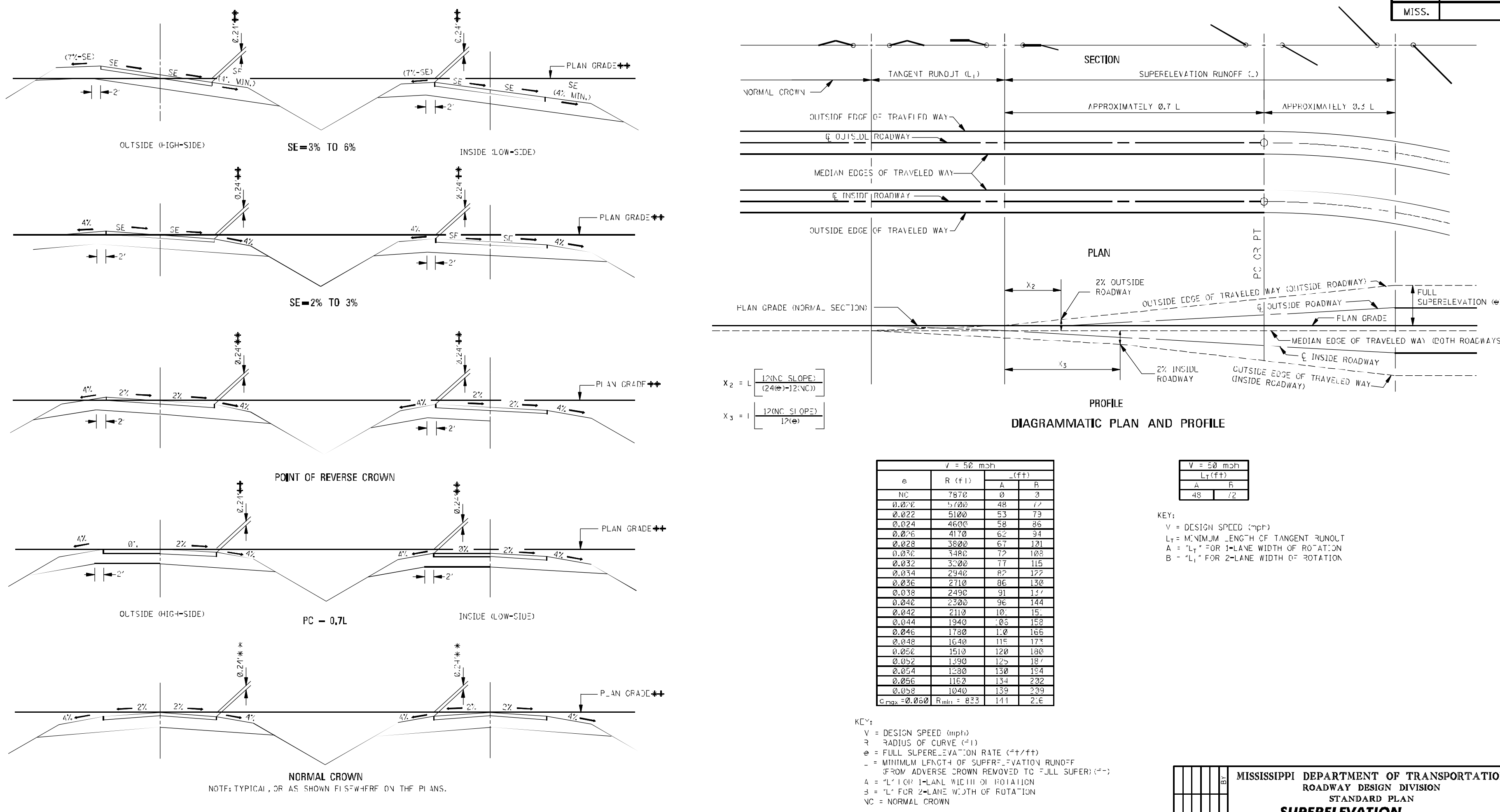
(URBAN FACILITY, V=50 mph)

REVISION | BY | DATE

ISSUE DATE: MAY 31, 2017

WORKING NUMBER SE-2C

SHEET NUMBER 6410



$X_2 = L\left[\frac{12(NC\ SLOPE)}{(24(e)-12(NC))}\right]$

$X_3 = L\left[\frac{12(NC\ SLOPE)}{12(e)}\right]$

V = 50 mph			
e	R (ft)	L (ft) A	L (ft) B
NC	7870	0	0
0.020	5700	48	72
0.022	5100	53	79
0.024	4600	58	86
0.026	4170	62	94
0.028	3800	67	101
0.030	3480	72	108
0.032	3200	77	115
0.034	2940	82	122
0.036	2710	86	130
0.038	2490	91	137
0.040	2300	96	144
0.042	2110	101	151
0.044	1940	106	158
0.046	1780	110	166
0.048	1640	115	173
0.050	1510	120	180
0.052	1390	125	187
0.054	1280	130	194
0.056	1160	134	202
0.058	1040	139	209
e_{max} = 0.060	R_{min} = 833	141	216

KEY:
- V = DESIGN SPEED (mph)
- R = RADIUS OF CURVE (ft)
- e = FULL SUPERELEVATION RATE (ft/ft)
- L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft)
- A = "L" FOR 1-LANE WIDTH OF ROTATION
- B = "L" FOR 2-LANE WIDTH OF ROTATION
- NC = NORMAL CROWN

V = 50 mph	
L_T(ft)	
A	B
48	72

KEY:
- V = DESIGN SPEED (mph)
- L_T = MINIMUM LENGTH OF TANGENT RUNOUT
- A = "L_T" FOR 1-LANE WIDTH OF ROTATION
- B = "L_T" FOR 2-LANE WIDTH OF ROTATION

NOTE: TYPICAL, OR AS SHOWN ELSEWHERE ON THE PLANS.

GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
2. "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:
   FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = 0.33XL IN COLUMN B)
   FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = 0.67XL IN COLUMN B)
3. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L_T" WHEN THE NUMBER OF LANES ROTATED IS GREATER THAN 2.
4. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.

++5. THE 0.24 DIFFERENCE IN ELEVATION FROM PLAN GRADE LINE TO EDGE OF TRAVELED WAY IS BASED ON 12' TRAVEL LANES, 2% NORMAL CROWN SLOPE, AND THE LOCATION OF PLAN GRADE AT THE CENTERLINE OF ROADWAY. ALTHOUGH THE HORIZONTAL LOCATION OF PLAN GRADE AT THE CENTERLINE IS PREFERRED AND ILLUSTRATED ON THIS STANDARD DRAWING, PLAN GRADE LOCATION IS VARIABLE (i.e. PLAN GRADE AT THE MEDIAN EDGE OF TRAVEL LANE) AND SHOULD BE VERIFIED ON THE TYPICAL SECTION(S).

STATE: MISS. | PROJECT NO.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

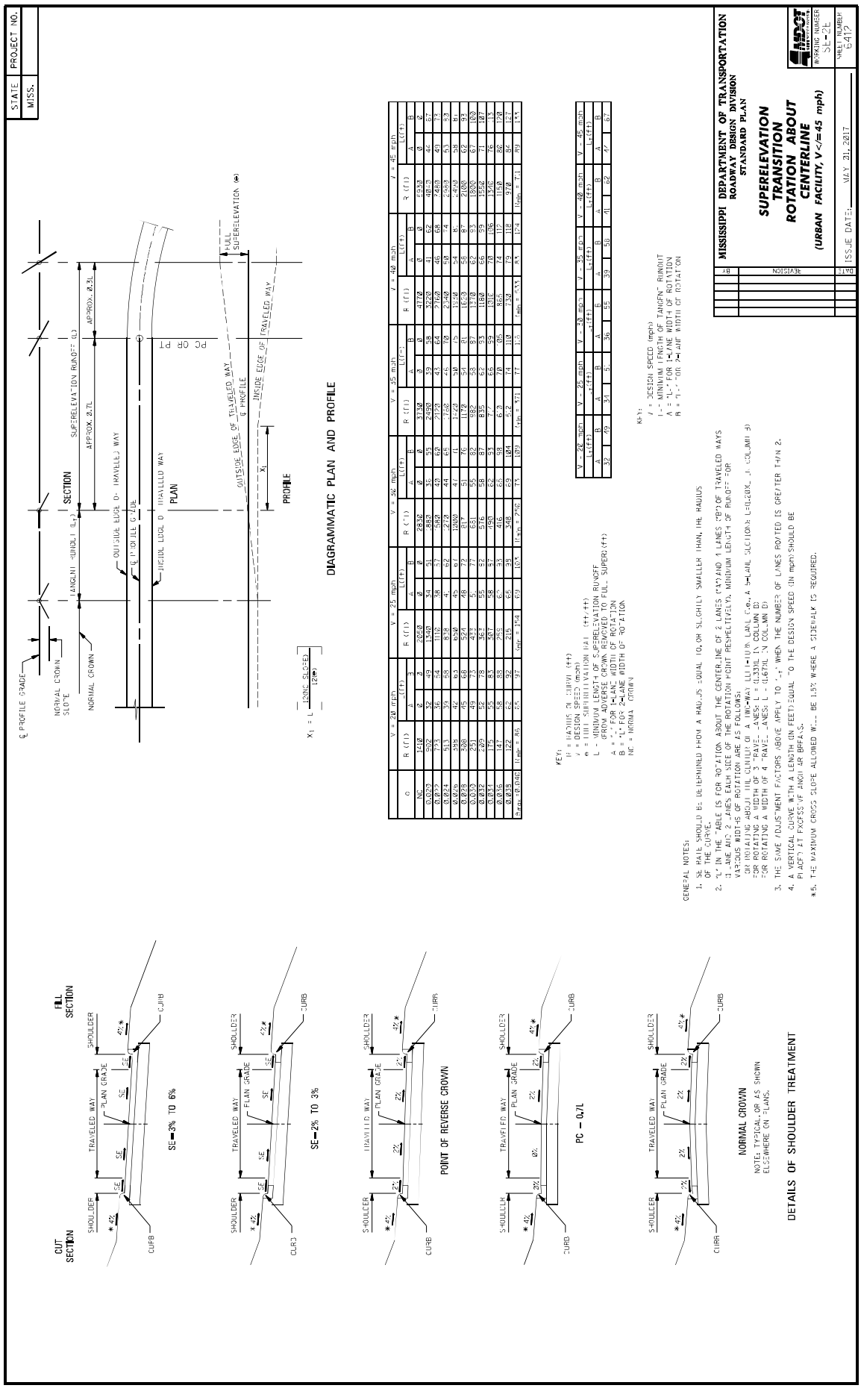
SUPERELEVATION TRANSITION CASE II ROTATION ABOUT EDGE OF TRAVELED WAY

(URBAN FACILITY, V=50 mph)

ISSUE DATE: MAY 31, 2017

WORKING NUMBER: SE-2D

SHEET NUMBER: 6411


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
SUPERELEVATION TRANSITION ROTATION ABOUT CENTERLINE
(URBAN FACILITY, V<=45 mph)
WORKING NUMBER SE-2E
SHEET NUMBER 5412
ISSUE DATE: MAY 21, 2017
DIAGRAMMATIC PLAN AND PROFILE
DETAILS OF SHOULDER TREATMENT
NORMAL CROWN
POINT OF REVERSE CROWN
PC - 0/L
SE=3% TO 6%
SE=2% TO 3%
CUT SECTION
FILL SECTION
GENERAL NOTES:
KEY:

SUPERELEVATION RUNOFF (L) FOR HORIZONTAL CURVES

e	V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
	L (ft)		L (ft)		L (ft)		L (ft)		L (ft)		L (ft)		L (ft)		L (ft)		L (ft)	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0.020	36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90
0.022	40	60	43	64	46	68	49	73	53	79	56	84	59	88	61	92	66	99
0.024	44	65	46	70	50	74	53	80	58	86	61	92	64	96	67	100	72	108
0.026	47	71	50	75	54	81	58	87	62	94	66	100	69	104	73	109	78	117
0.028	51	76	54	81	58	87	62	93	67	101	71	107	75	112	78	117	84	126
0.030	55	82	58	87	62	93	67	100	72	108	77	115	80	120	84	126	90	135
0.032	58	87	62	93	66	99	71	107	77	115	82	123	85	128	89	134	96	144
0.034	62	93	66	99	70	106	76	113	82	122	87	130	91	136	95	142	102	153
0.036	65	98	70	105	74	112	80	120	86	130	92	138	96	144	100	151	108	162
0.038	69	104	74	110	79	118	84	127	91	137	97	146	101	152	106	159	114	171
0.040	73	109	77	116	83	124	89	133	96	144	102	153	107	160	112	167	120	180
0.042	76	115	81	122	87	130	93	140	101	151	107	161	112	168	117	176	126	189
0.044	80	120	85	128	91	137	98	147	106	158	112	169	117	176	123	184	132	198
0.046	84	125	89	134	95	143	102	153	110	166	117	176	123	184	128	193	138	207
0.048	87	131	93	139	99	149	107	160	115	173	123	184	128	192	134	201	144	216
0.050	91	136	97	145	103	155	111	167	120	180	128	191	133	200	140	209	150	225
0.052	95	142	101	151	108	161	116	173	125	187	133	199	139	208	145	218	156	234
0.054	98	147	105	157	112	168	120	180	130	194	138	207	144	216	151	226	162	243
0.056	102	153	108	163	116	174	124	187	134	202	143	214	149	224	156	234	168	252
0.058	105	158	112	168	120	180	128	193	139	209	148	222	155	232	162	243	174	261
0.060	109	164	116	174	124	186	133	200	144	216	153	230	160	240	167	251	180	270
0.062	113	169	120	180	128	192	138	207	149	223	158	237	165	248	173	260	186	279
0.064	116	175	124	186	132	199	142	213	154	230	163	245	171	256	179	268	192	288
0.066	120	180	128	192	137	205	147	220	158	238	169	253	176	264	184	276	198	297
0.068	124	185	132	197	141	211	151	227	163	245	174	262	181	272	190	285	204	306
0.070	127	191	135	203	145	217	156	233	168	252	179	268	187	280	195	293	210	315
0.072	131	196	139	209	149	223	160	240	173	259	184	276	192	288	201	301	216	324
0.074	135	202	143	215	153	230	164	247	178	266	189	283	197	296	207	310	222	333
0.076	138	207	147	221	157	236	169	253	182	274	194	291	203	304	212	318	228	342
0.078	142	213	151	226	161	242	173	260	187	281	199	299	208	312	218	327	234	351
0.080	145	218	155	232	166	248	178	267	192	288	204	306	213	320	223	335	240	360
0.082	149	224	159	238	170	254	182	273	197	295	209	314	219	328	229	343	246	369
0.084	153	229	163	244	174	261	187	280	202	302	214	322	224	336	234	352	252	378
0.086	156	235	166	250	178	267	191	287	206	310	220	329	229	344	240	360	258	387
0.088	160	240	170	255	182	273	196	293	211	317	225	337	235	352	246	368	264	396
0.090	164	245	174	261	186	279	200	300	216	324	230	345	240	360	251	377	270	405
0.092	167	251	178	267	190	286	204	307	221	331	235	352	245	368	257	385	276	414
0.094	171	256	182	273	194	292	209	313	226	338	240	360	251	376	262	393	282	423
0.096	175	262	186	279	199	298	213	320	230	346	245	368	256	384	268	402	288	432
0.098	178	267	190	285	203	304	218	327	235	353	250	375	261	392	273	410	294	441
0.100	182	273	194	290	207	310	222	333	240	360	255	383	267	400	279	419	300	450

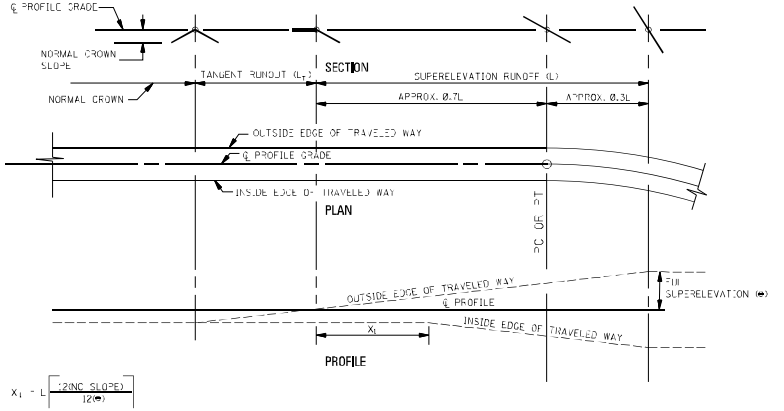
TANGENT RUNOUT (L_T) FOR HORIZONTAL CURVES

V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
L_T (ft)		L_T (ft)		L (ft)		L_T (ft)		L_T (ft)		L_T (ft)		L_T (ft)		L_T (ft)		L_T (ft)	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90

GENERAL NOTES:

1. STATE AID DIVISION: USE STANDARD SA-SE-1.
2. "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 UNDIVIDED LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:
   FOR ROTATING A WIDTH OF 2.5 TRAVEL LANES: L = (.20)(L IN COLUMN B) (ASSUMING AXIS OF ROTATION ABOUT THE CENTERLINE OF 5-LANE SECTION)
   FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (.33)(L IN COLUMN B)
   FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (.67)(L IN COLUMN B)
3. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L_T" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
4. SEE SHEET SE-2A, SE-2C or SE-2E FOR SE RATES.
5. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.

STATE	PROJECT NO.
MISS.	



DIAGRAMMATIC PLAN AND PROFILE

KEY:

V = DESIGN SPEED (mph)
e = FULL SUPERELEVATION RATE (ft/ft)
L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft)
A = "L" FOR 1-LANE WIDTH OF ROTATION
B = "L" FOR 2-LANE WIDTH OF ROTATION

BY	REVISION	DATE

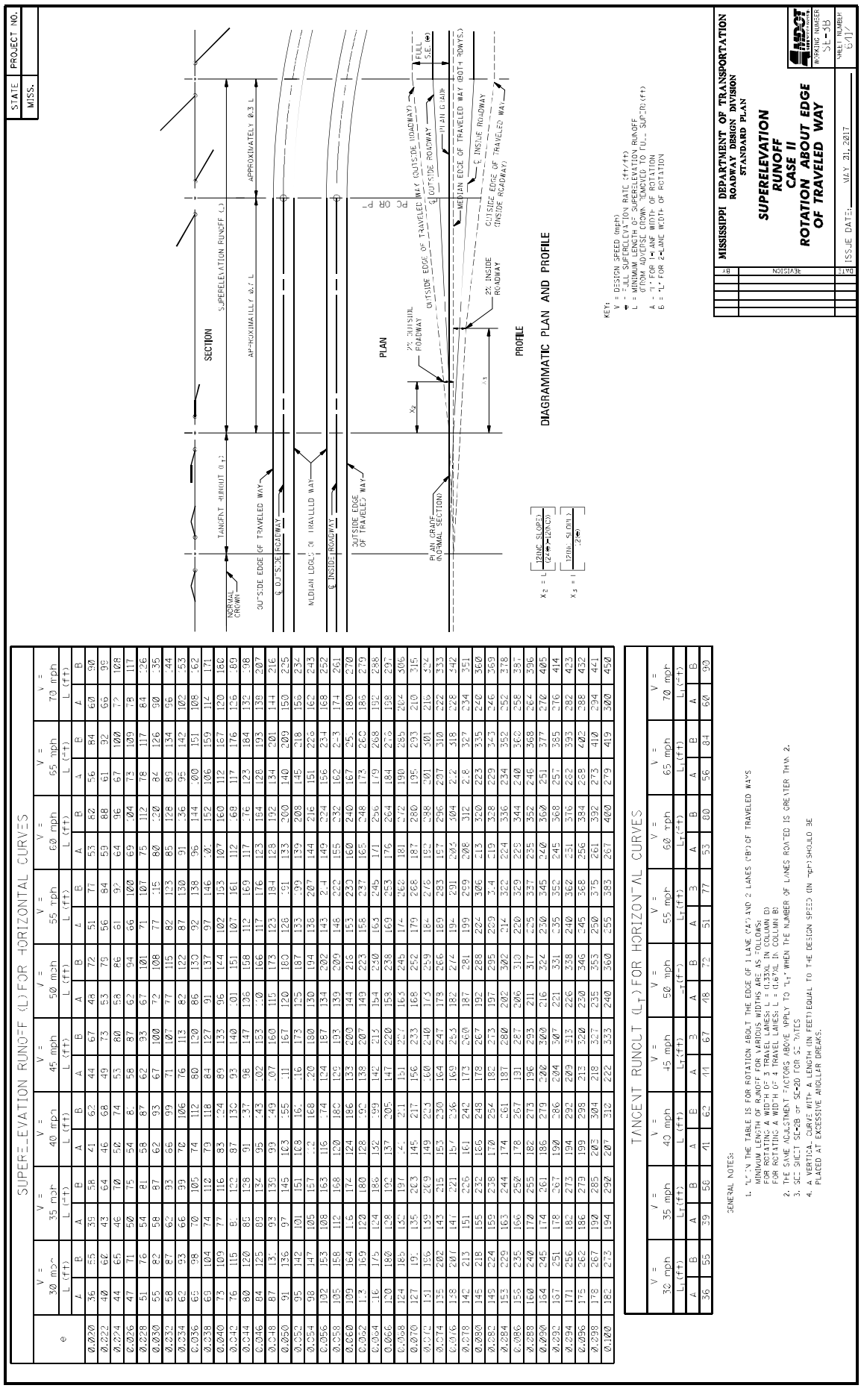
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

SUPERELEVATION RUNOFF CASE I ROTATION ABOUT CENTERLINE

MDOT
WORKING NUMBER: SE-3A

ISSUE DATE: MAY 31, 2017

SHEET NUMBER: 6413


STATE
MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN
SUPERELEVATION RUNOFF CASE II ROTATION ABOUT EDGE OF TRAVELED WAY
WORKING NUMBER SE-3B
SHEET NUMBER 6 of 7
ISSUE DATE: MAY 31, 2017
BY
REVISION
DATE
SUPERELEVATION RUNOFF (L) FOR HORIZONTAL CURVES
e
V = 30 mph
V = 35 mph
V = 40 mph
V = 45 mph
V = 50 mph
V = 55 mph
V = 60 mph
V = 65 mph
V = 70 mph
L (ft)
A
B
TANGENT RUNOUT (L_T) FOR HORIZONTAL CURVES
V = 30 mph
V = 35 mph
V = 40 mph
V = 45 mph
V = 50 mph
V = 55 mph
V = 60 mph
V = 65 mph
V = 70 mph
L_T (ft)
GENERAL NOTES:
1. "L" IN THE TABLE IS FOR ROTATION ABOUT THE EDGE OF 1 LANE (12') AND 2 LANES (24') OF TRAVELED WAYS
MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS ARE AS FOLLOWS:
FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (1.33)L IN COLUMN D
FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (1.67)L IN COLUMN B.
2. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L_T" WHEN THE NUMBER OF LANES ROTATED IS GREATER THAN 2.
3. SEE SHEET SE-3B OF SE-3D FOR SE RATES
4. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN MPH) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.
SECTION
TANGENT RUNOUT (L_T)
SUPERELEVATION RUNOFF (L)
NORMAL CROWN
APPROXIMATELY 0.3 L
APPROXIMATELY 0.7 L
OUTSIDE EDGE OF TRAVELED WAY
℄ OUTSIDE ROADWAY
MEDIAN EDGE OF TRAVELED WAY
℄ INSIDE ROADWAY
PLAN
22' OUTSIDE ROADWAY
OUTSIDE EDGE OF TRAVELED WAY (OUTSIDE ROADWAY)
℄ OUTSIDE ROADWAY
PLAIN GRADE
MEDIAN EDGE OF TRAVELED WAY (BOTH DIRECTIONS)
℄ INSIDE ROADWAY
22' INSIDE ROADWAY
OUTSIDE EDGE OF TRAVELED WAY (INSIDE ROADWAY)
PROFILE
DIAGRAMMATIC PLAN AND PROFILE
KEY:
V = DESIGN SPEED (mph)
e = FULL SUPERELEVATION RATE (ft/ft)
L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft)
A = "L" FOR 1-LANE WIDTH OF ROTATION
B = "L" FOR 2-LANE WIDTH OF ROTATION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 11/22/2017

SUBJECT: Bidding Requirements and Conditions

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

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

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

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 06/22/2017

SUBJECT: Award and Execution of Contract

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

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

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

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-105-1 **CODE: (SP)**

DATE: 05/07/2021

SUBJECT: Authority of the Engineer

Section 105, Control of Work, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-105.1--Authority of the Engineer. Delete the first sentence of the second paragraph of Subsection 105.01 on page 31, and substitute the following.

The Engineer has the right to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to correct conditions unsafe for workmen or the general public, for failure to carry out provisions of the Contract, or for failure to carry out orders.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-108-4 **CODE: (SP)**

DATE: 10/07/2020

SUBJECT: Subletting of Contract

Section 108, Prosecution and Progress, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-108.01--Subletting of Contract.

907-108.01.1--General. Delete the third sentence of the tenth paragraph of Subsection 108.01.1 on the bottom of page 72.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-109-3 **CODE: (IS)**

DATE: **02/23/2021**

SUBJECT: **Measurement and Payment**

Section 109, Measurement and Payment, of the 2017 Edition of the Mississippi StandardSpecifications for Road and Bridge Construction is hereby amended as follows.

907-109.01--Measurement of Quantities. Delete the sixth full paragraph of Subsection 109.01on page 88, and substitute the following.

If appropriate based on the specific circumstances of the project, the Contractor may request that material specified to be measured by the cubic yard or ton be converted to the other measure. The Contractor must submit this request to the Engineer. The Engineer will provide an approval or denial in writing. The decision is in the sole discretion of the Engineer. If approved, factors for this conversion will be determined by the District Materials Engineer and agreed to by the Contractor. The conversion of the materials along with the conversion factor will be incorporated into the Contract by supplemental agreement. The supplemental agreement must be executed before such method of measurement is used.

907-109.04--Extra Work.

907-109.04.1--Supplemental Agreement. Delete the second paragraph of Subsection 109.04.1 on page 90.

907-109.06--Partial Payment.

907-109.06.2--Advancement on Materials. Delete the next to last paragraph of Subsection 109.06.2 on page 95, and substitute the following.

Materials for which an advanced payment has been allowed must be paid for by the Contractor within 30 days of the estimate on which the advanced payment was first allowed and proof of said payment must be verified by the supplier. If proof of payment is not furnished within the allowable 30 days, the advanced payment will be deducted on subsequent current estimates until such time that proof of payment is furnished.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-411-1 **CODE: (IS)**

DATE: 06/13/2018

SUBJECT: Material Transfer Equipment

Section 411, Ultra-Thin Asphalt Pavement, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-411.03--Construction Requirements. After Subsection 411.03.10 on page 327, add the following.

907-411.03.11--Material Transfer Equipment. Excluding the areas mentioned below, the material transferred from the hauling unit shall be remixed prior to being placed in the paver hopper or insert by using an approved Materials Transfer Device. Information on approved devices can be obtained from the State Construction Engineer. Areas excluded from this requirement include: temporary work of short duration, detours, bridge replacement projects having less than 1,000 feet of pavement on each side of the structure, acceleration and deceleration lanes less than 1,000 feet in length, tapered sections, transition sections (for width), shoulders less than 10 feet in width, crossovers, ramps, side street returns and other areas designated by the Engineer.

907-411.05--Basis of Payment. Add the "907" prefix to the pay item listed on page 328.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

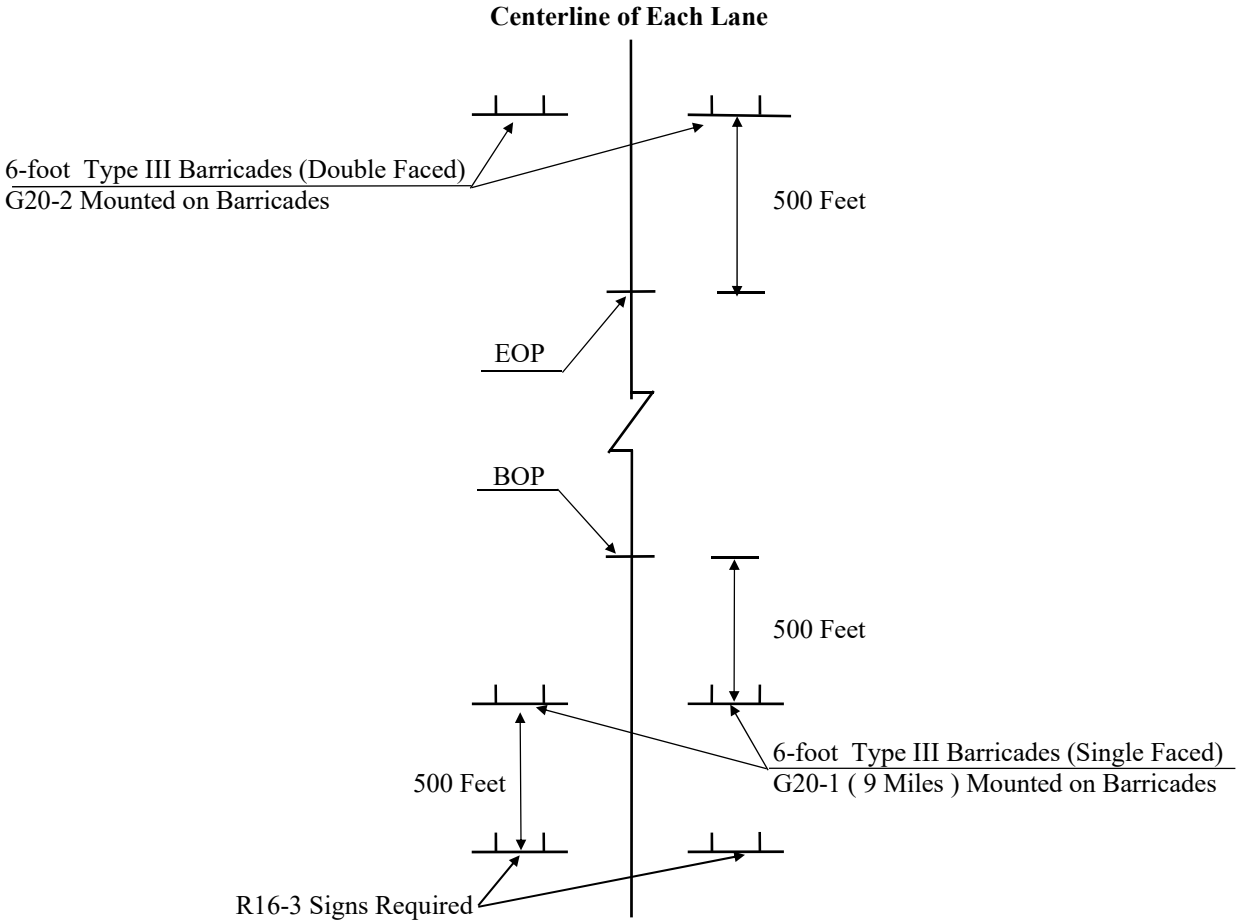
SUPPLEMENT TO SPECIAL PROVISION NO. 907-618-4

DATE: 03/01/2022

PROJECT: MP-6063-20(017) / 307910301 – George 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.

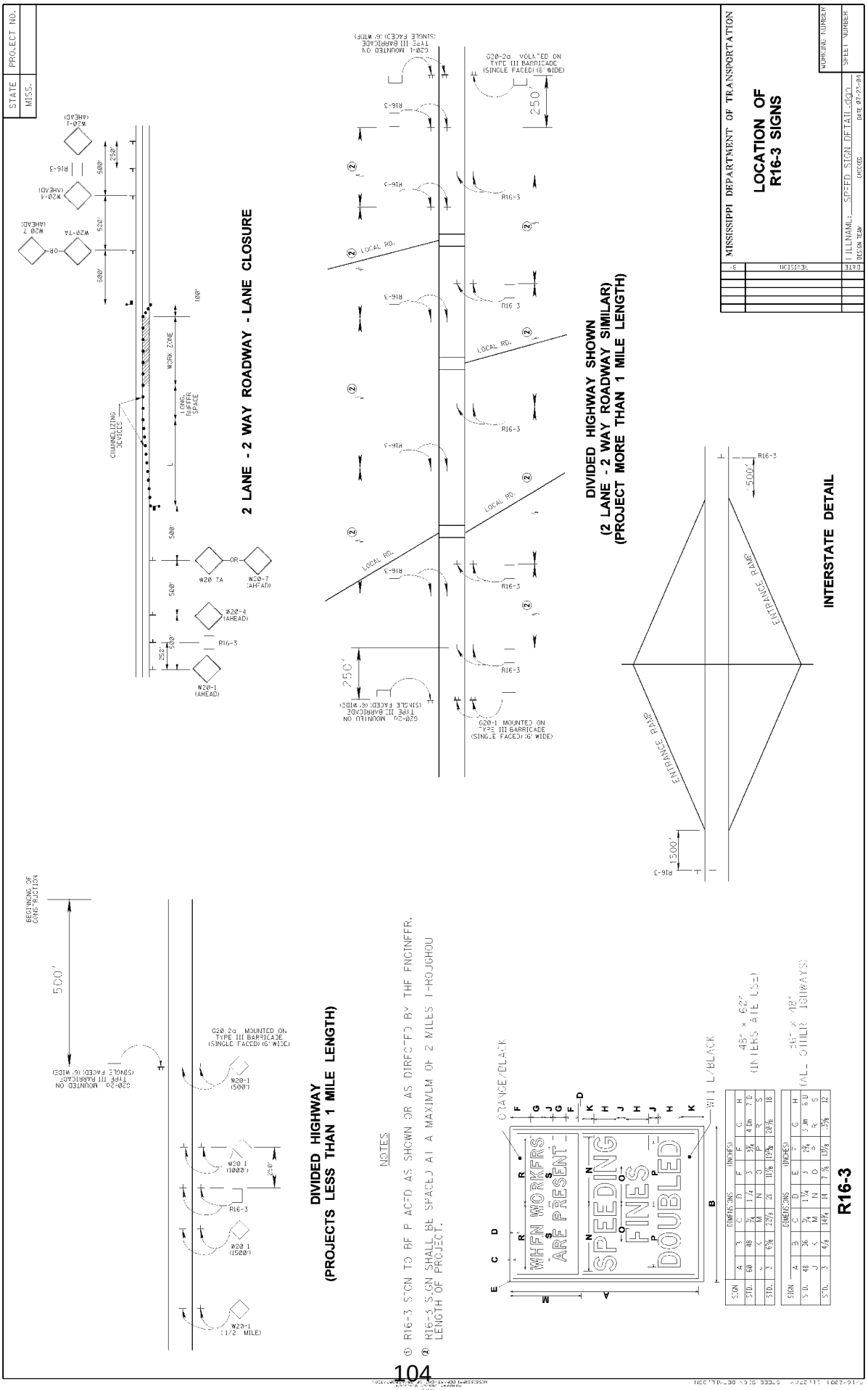


ADDITIONAL TRAFFIC CONTROL SIGNS REQUIRED:

- **16** - W20-1 "AHEAD" signs required. One (1) sign is required at each local road or street entering the project.
- **16** - R16-3 "SPEEDING FINES DOUBLED" signs required.

R16-3 signs shall be spaced in accordance with sheet titled "Location of R16-3 Signs".

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 R16-3 which shall be black legend and border on white background.


STATE MISS.
PROJECT NO.
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
LOCATION OF R16-3 SIGNS
WORKZONE NUMBER
SHEET NUMBER
DATE
DESIGN TEAM
CHECKED
DATE 07-29-04
2 LANE - 2 WAY ROADWAY - LANE CLOSURE
DIVIDED HIGHWAY SHOWN
(2 LANE - 2 WAY ROADWAY SIMILAR)
(PROJECT MORE THAN 1 MILE LENGTH)
INTERSTATE DETAIL
DIVIDED HIGHWAY
(PROJECTS LESS THAN 1 MILE LENGTH)
NOTES
① R16-3 SIGN TO BE PLACED AT A MAXIMUM OF 2 MILES FROM BEGINNING OF PROJECT.
② R16-3 SIGN SHALL BE SPACED AT A MAXIMUM OF 2 MILES THROUGHOUT LENGTH OF PROJECT.
ORANGE/BLACK
WHITE/BLACK
SPEEDING
FINES
DOUBLED
WHEN WORKERS ARE PRESENT
48" x 60"
(INTERSTATE USE)
36" x 48"
(ALL OTHER HIGHWAYS)
R16-3

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-618-4 **CODE: (SP)**

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.

907-618.01.2--Traffic Control Plan. 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.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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

DATE: 01/17/2017

SUBJECT: Inverted Profile Thermoplastic Traffic Stripe

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

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

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

907-624.02--Materials.

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

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

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

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

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

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

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

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

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

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

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

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

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

907-624.02.2.6--Flow Characteristics.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

907-624.03--Construction Requirements.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Payment will be made under:

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

* High Contrast may be specified

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-701-3 **CODE: (IS)**

DATE: **05/04/2021**

SUBJECT: **Hydraulic Cement**

Section 701, Hydraulic Cement, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-701.01--General. In the first sentence of the second paragraph of Subsection 701.01 on page 718, change "mills" to "plants."

In the second sentence of the sixth paragraph of Subsection 701.01 on pages 718 and 719, change "shall" to "will."

907-701.02--Portland Cement.

907-701.02.1-General.

907-701.02.1.2--Alkali Content. Delete the sentence in Subsection 701.02.1.2 on page 719, and substitute the following.

When used in portland cement concrete, the total alkali contribution from all cement types in this Subsection shall not exceed 4.0 lb. per cubic yard of concrete calculated as follows:

$$\text{lb alkali per cu Yd} = \frac{(\text{lb cement per cu Yd}) \text{x} (\%\text{Na}_2\text{O equivalent in cement})}{100}$$

In the above calculation, the maximum cement alkali content reported on the cement mill certificate shall be used. An example calculation can be found in the Department's *Concrete Field Manual*.

907-701.02.2--Replacement by Other Cementitious Materials. Delete the paragraph in Subsection 701.02.2 on page 719, and substitute the following.

The maximum replacement of cement by weight is 25% for fly ash or 50% for ground granulated blast furnace slag (GGBFS). Replacement contents below 20% for fly ash or 45% for GGBFS may be used, but will not be given any special considerations, such as the maximum acceptance temperature for portland cement concrete containing pozzolans in Subsection 804.02.13.1.5. Special considerations shall only apply for replacement of cement by fly ash or GGBFS.

Delete Subsection 701.02.2.1 on pages 719 and 720, and substitute the following.

907-701.02.2.1--Portland Cement Concrete Exposed to Soluble Sulfate Conditions or Seawater.

When portland cement concrete is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall be as follows in Table 1. Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed in Table 1.

Table 1- Cementitious Materials for Soluble Sulfate Conditions or Seawater

Sulfate Exposure	Water-soluble sulfate (SO_4) in soil, % by mass	Sulfate (SO_4) in water, ppm	Cementitious material required
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type I cement with one of the following replacements of cement by weight: 24.5 - 25.0% Class F fly ash, or 49.5 - 50.0% GGBFS or Type II*,** cement
Severe	0.20 - 2.00	1,500 - 10,000	Type I cement with a replacement by weight of 49.5 - 50.0% GGBFS, or Type II* cement with one of the following replacements of cement by weight: 24.5 - 25.0% Class F fly ash, or 49.5 - 50.0% GGBFS

* Type III cement conforming to AASHTO M85 with a maximum 8% tricalcium aluminate (C_3A) may be used in lieu of Type II cement as allowed in Subsection 701.02.1; this cement is given the designation "Type III(MS)."

** Class F fly ash or GGBFS may be added as a replacement for cement as allowed in Subsection 907-701.02.2.

Delete Subsection 701.02.2.2 on page 720, and substitute the following.

907-701.02.2.2--Portland Cement for Soil Stabilization Exposed to Soluble Sulfate Conditions or Seawater. When portland cement for use in soil stabilization is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall meet the requirements of Subsection 701.02.2.1.

907-701.04--Blended Hydraulic Cement.

907-701.04.1--General. Delete Subsection 701.04.1.1 on page 720, and substitute the following.

907-701.04.1.1--Types of Blended Hydraulic Cement. Blended hydraulic cements (blended cements) shall be of the following types and conform to AASHTO M 240:

Type IL – Portland-limestone cement
Type IP – Portland-pozzolan cement
Type IS – Portland blast-furnace slag cement

Blended cement Types IL, IP, and IS meeting the "MS" sulfate resistance requirement listed in AASHTO M 240, Table 3 shall have the "(MS)" suffix added to the type designation.

907-701.04.1.2--Alkali Content. Delete the sentence in Subsection 701.04.1.2 on page 720, and substitute the following.

All blended cement types shall be made with clinker that would result in cement meeting the requirements of Subsection 701.02.1.2 when used in the production of AASHTO M 85, Type I or Type II cement.

The blended cement manufacturer shall include the percent equivalent alkalis as Na_2O on their cement mill reports.

When calculating the total alkali contribution with blended cements, use the equivalent alkali content of the base portland cement. An example calculation for cases where blended cements are used can be found in the Department's *Concrete Field Manual*.

907-701.04.2--Replacement by Other Cementitious Materials. Delete the paragraph in Subsection 701.04.2 on page 720, and substitute the following.

The maximum replacement of blended cement Type IL by weight is 35% for fly ash or 50% for GGBFS. Replacement contents below 20% for fly ash or 45% for GGBFS may be used, but will not be given any special considerations, such as the maximum acceptance temperature for blended cement concrete containing pozzolans in Subsection 804.02.13.1.5. Special considerations shall only apply for replacement of blended cement by fly ash or GGBFS.

No additional cementitious materials, such as portland cement, blended cement, fly ash, GGBFS, or others, shall be added to or as a replacement for blended cement Types IP and IS.

Delete Subsection 701.04.2.1 on pages 720 and 721, and substitute the following.

907-701.04.2.1--Blended Cement Concrete Exposed to Soluble Sulfate Conditions or Seawater. When blended cement concrete is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall be as follows in Table 2. Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed in Table 2.

Table 2- Cementitious Materials for Soluble Sulfate Conditions or Seawater

Sulfate Exposure	Water-soluble sulfate (SO_4) in soil, % by mass	Sulfate (SO_4) in water, ppm	Cementitious material required
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type IL (MS)* cement, Type IL cement with one of the following replacements of cement by weight: 24.5 - 35.0% Class F fly ash, or 49.5 - 50.0% GGBFS, Type IP (MS) cement, or Type IS (MS) cement
Severe	0.20 - 2.00	1,500 - 10,000	Type IL cement with a replacement of cement by weight of 49.5 - 50.0% GGBFS, or Type IL (MS) cement with one of following replacements of cement by weight: 24.5 - 35.0% Class F fly ash, or 49.5 - 50.0% GGBFS

* Class F fly ash or GGBFS may be added as a replacement for cement as allowed in Subsection 907-701.04.2.

Delete Subsection 701.04.2.2 on page 721, and substitute the following.

907-701.04.2.2--Blended Cement for Soil Stabilization Exposed to Soluble Sulfate Conditions or Seawater. When blended cement for use in soil stabilization is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall meet the requirements of Subsection 701.04.2.1.

Delete Subsection 701.04.3 on page 721.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-702-4 **CODE: (IS)**

DATE: 09/11/2018

SUBJECT: Bituminous Materials

Section 702, Bituminous Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-702.04--Sampling. Delete the sentence in Subsection 702.04 on page 722, and substitute the following.

Sampling of bituminous materials shall be as set out in AASHTO R 66.

907-702.07--Emulsified Asphalt. Delete the last sentence in Subsection 702.07 on page 724, and substitute the following.

Asphalt for fog seal shall conform to the requirements of Subsection 907-702.12, Table V.

907-702.12--Tables. Delete Table V in Subsection 702.12 on page 729, and substitute the following.

TABLE V
SPECIFICATION FOR FOG SEAL

	LD-7		CHPF-1		
Test Requirements	**Min.**	**Max.**	**Min.**	**Max.**	**Test Method**
Viscosity, Saybolt Furol, @ 25°C, Sec.	10	100	-	100	AASHTO T 72
Storage Stability Test, 24 hr, %	-	1	-	1	AASHTO T 59
Settlement, 5 day, %	-	5	-	-	AASHTO T 59
Oil Distillate, %	-	1	-	-	AASHTO T 59
Sieve Test, % *	-	0.3	-	0.1	AASHTO T 59
Residue by Distillation, %	40	-	40	-	AASHTO T 59
Test on Residue from Distillation					
Penetration @ 25°C, 100g, 5 sec	-	20	40	90	AASHTO T 49
Softening Point, °C	65	-	-	-	ASTM D 36
Solubility in trichloroethylene, %	97.5	-	-	-	AASHTO T 44
Elastic Recovery @ 25°C, %	-	-	40	-	AASHTO T 301
Original DSR @ 82° (G*/Sinδ, 10 rad/sec)	1	-	-	-	AASHTO T 111

* The Sieve Test result is tested for reporting purposes only and may be waived if no application problems are present in the field.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-703-1 **CODE: (IS)**

DATE: 06/13/2018

SUBJECT: Gradation

Section 703, Aggregates, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-703.03--Course Aggregates for Hydraulic Cement Concrete.

907-703.03.2--Detail Requirements.

907-703.03.2.4--Gradation. In the table in Subsection 703.03.2.4 on page 734, add 100 for the percent passing by weight on the 1½-inch sieve for Size No. 67 aggregates.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-705-1 **CODE: (IS)**

DATE: 06/13/2018

SUBJECT: Stone Riprap

Section 705, Stone Blanket Protection and Filter Blanket Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-705.04--Stone Riprap. Delete the last sentence of the first paragraph of Subsection 705.04 on page 750, and substitute the following.

Quality requirements for rock to be furnished under these specifications will come from a pre-approved source and be visually approved prior to use.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-707-3 **CODE: (IS)**

DATE: **10/27/2021**

SUBJECT: **Joint Materials**

Section 707, Joint Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-707.02--Joint Filler.

907-707.02.2--Preformed Sponge, Rubber, Cork and Closed-Cell Polypropylene Foam Joint Fillers for concrete Paving and Structural Constructions. Delete the two paragraphs of Subsection 707.02.2 on page 755, and substitute the following.

Preformed joint filler shall conform to AASHTO M 153 for sponge, rubber, and cork and tested according to ASTM D545. The type required will be indicated on the plans.

Closed-cell polypropylene foam shall conform to the requirements in ASTM D8139 and tested in accordance with ASTM D545.

907-707.02.3--Wood. Delete paragraph (b) of Subsection 707.02.3 on page 755, and substitute the following:

(b) Dimensions shall be as shown on the plans Dimensions shown on the plans are "dressed" sizes in accordance with Table 3 of the American Softwood Lumber Standard, SP-20. At the discretion of the Engineer, a 3/4-inch dressed board may be used in lieu of a 1-inch dressed board. A tolerance of plus or minus 1/16 inch thickness and plus or minus 1/8 inch width will be permitted. For slip-form paving a tolerance of minus 1/4 inch on each end in length will be permitted.

907-707.06--Flexible Plastic Gasket for Joining Conduit. Delete the third paragraph of Subsection 707.06 on page 756, and substitute the following.

The Department may require the performance test described in ASTM C 990.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-2 **CODE: (IS)**

DATE: 09/11/2018

SUBJECT: Plain Steel Wire

Section 711, Reinforcement and Wire Rope, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-711.02--Deformed and Plain Carbon-Steel Bars for Concrete Reinforcing.

907-711.02.3--Steel Welded and Non-Welded Wire Reinforcement, Plain and Deformed, for Concrete.

907-711.02.3.1--Plain Steel Wire. Delete the sentence in Subsection 711.02.3.1 on pages 780 and 781, and substitute the following.

Plain steel wire and plain steel welded wire shall conform to the requirements of AASHTO M 336.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-712-1 **CODE: (SP)**

DATE: 12/07/2021

SUBJECT: Fence and Guardrail

Section 712, Fence and Guardrail, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-712.01--General. After the sentence in Subsection 712.01 on page 785, add the following.

All materials' inspection, testing, and certification will be performed in accordance with the requirements of the current version of the Department's *Materials Division Inspection, Testing, and Certification Manual*.

Delete Subsections 712.02 and 712.03 on page 785, and substitute the following.

907-712.02--Barbed Wire. Barbed wire shall conform to the requirements of AASHTO M 280. In the coastal counties of Hancock, Harrison, and Jackson, either Coating Type Z Class 3 or Coating Type A shall be furnished. In all other areas of the State, either Coating Type Z Class 1, Coating Type Z Class 3, Coating Type ZA Class 60, or Coating Type A shall be furnished.

907-712.03--Metallic-Coated, Steel Woven Wire Fence Fabric. Woven wire fencing (i.e., "hog wire") shall conform to the requirements of AASHTO M 279. In the coastal counties of Hancock, Harrison, and Jackson, either Coating Type Z Class 3 or Coating Type A shall be furnished. In all other areas of the State, either Coating Type Z Class 1, Coating Type Z Class 3, Coating Type ZA Class 60, or Coating Type A shall be furnished.

907-712.04--Chain Link Fence. Delete Subsections 712.04.1 thru 712.04.7 on pages 785 & 786, and substitute the following.

907-712.04.1--Fabric. In the coastal counties of Hancock, Harrison, and Jackson, either Type I Class D, Type II, Type III, or Type IV fabrics shall be furnished. In all other areas of the State, either Type I Class C, Type I Class D, Type II, Type III, or Type IV fabrics shall be furnished.

907-712.04.2--Tie Wire. Tie wire shall be of the same material as the fencing wire being used, shall be of good commercial quality, and shall meet the requirements of AASHTO M 181. Either Type I, Type II, Type III, or Type IV tie wire shall be furnished.

907-712.04.3--Tension Wire. Tension wire shall be of the same material as the fencing wire being used, shall be of good commercial quality, and shall meet the requirements of AASHTO M 181. In the coastal counties of Hancock, Harrison, and Jackson, either Type I Class 3, Type II, Type III, or Type IV tension shall be furnished. In all other areas of the State, either Type II, Type III, Type IV, or Type I Classes 1, 2, or 3 tension wires shall be furnished.

907-712.04.4--Posts Rails, Gate Frames, and Expansion Sleeves. Posts, rails, gate frames, and expansion sleeves shall conform to the requirements for posts in Subsection 712.05.2, unless otherwise designated in the contract.

907-712.04.5--Miscellaneous Fittings and Hardware. Miscellaneous fittings and hardware shall conform to the requirements of Subsection 712.16.

907-712.05--Fence Posts and Braces.

907-712.05.1--Treated Timber Posts and Braces.

907-712.05.1.1--General. Delete the third, fourth, fifth, and sixth paragraphs of Subsection 712.05.1.1 on page 787, and substitute the following.

All wood posts and braces shall be treated in accordance with Subsections 718.03 and 718.04.

907-712.05.1.2--Round Posts. Delete the last sentence of the last paragraph of Subsection 712.05.1.2 on page 788.

907-712.05.1.3--Sawed Posts. Delete the last sentence of the paragraph of Subsection 712.05.1.3 on page 788.

907-712.05.1.4--Sawed Braces. Delete the last sentence of the paragraph of Subsection 712.05.1.4 on page 788.

Delete Subsection 712.05.2 on page 788, and substitute the following.

907-712.05.2--Metal Posts.

907-712.05.2.1--Round Steel Pipe. Round steel pipe shall meet the requirements of AASHTO M 181, either Grade 1 (i.e., meeting the requirements in ASTM F 1083) or Grade 2 (i.e., meeting the requirements of ASTM F 1043).

Round steel pipe shall be sized in accordance with NPS (nominal pipe size) designations as shown on Plans, and not according to the outer or inner pipe diameter.

907-712.05.2.2--Steel Fence Post and Assemblies, Hot-Wrought. Steel posts with the following section shapes, Tee, channel or U, and Y-Bar shall meet the requirements of AASHTO M 281, galvanized in accordance with the requirements of AASHTO M 111, unless otherwise specified in the contract. Acceptance of these steel posts shall be by certification from the manufacturer, producer, supplier, or fabricator, as applicable.

907-712.05.2.3--Blank.

907-712.05.2.4--Steel H-Beam Posts. Steel H-Beam posts shall be produced from structural quality weldable steel having a minimum yield strength of 45,000 psi and shall be galvanized in accordance with ASTM A 123. Steel H-Beam line posts shall be 2.250 inches by 1.625 inches and shall weigh 3.43 pounds per foot. A tolerance of plus or minus 5.0 percent is allowed for

weight per foot. A tolerance of plus or minus 1.0 percent is allowed for dimensions.

907-712.05.2.5--Aluminum-Alloy Posts and Assemblies. Round aluminum-alloy posts shall meet the requirements of ASTM B 241, Alloy 6061, T6. Aluminum-Alloy H-Beam posts shall meet the requirements of ASTM B 221, Alloy 6061, T6.

907-712.05.2.6--Formed Steel Section Posts. Formed steel section posts, "C" sections, shall be formed from sheet steel conforming to ASTM A 1011, Grade 45, and shall be galvanized in accordance with ASTM A 123.

907-712.06--Guard and Guardrail Posts.

907-712.06.2--Treated Wood Posts.

907-712.06.2.1--Square Posts. Delete the paragraph in Subsection 712.06.2.1 on page 789, and substitute the following.

All square posts shall be inspected for conformance with Section 712.05, except that the posts may be rough and shall be within ±3/8" of the dimensions shown on the plans.

907-712.06.2.2--Round Posts. Delete the paragraph in Subsection 712.06.2.2 on page 789, and substitute the following.

All round posts shall be inspected for conformance with Section 712.05, except that the posts shall be of the shape and dimensions shown on the plans.

907-712.06.5--Treated Wood Blocks for Use with Metal Guardrail Posts. Delete the paragraphs of Subsection 712.06.5 on pages 789 & 790, and substitute the following.

Treated wood blocks for use with metal guardrail posts shall be within ±3/8" of the size and dimensions shown on the plans, except that a minus tolerance shall not be allowed for the slotted width in which the metal post must fit.

Delete Subsection 712.16 on page 791, and substitute the following.

907-712.16--Hardware. All ferrous metal hardware for fencing such as bolts, nuts, washers, and metal straps shall be as specified on the plans and galvanizing shall not be less than 1.0 ounce per square foot of uncoated area. Aluminum coated hardware shall be coated with aluminum meeting the requirements of AASHTO M 181 for aluminum coating and at the rate of not less than 0.4 ounces per square foot of uncoated area.

Aluminum alloy hardware shall conform to the requirements of ASTM B 221 for extruded aluminum alloy 6063, T6. The finished members shall be of uniform quality.

Aluminum-zinc coated hardware shall be coated with an aluminum-zinc alloy meeting the chemical requirements and weight of coating specified for aluminum-zinc alloy coated metal gates.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-714-3 **CODE: (SP)**

DATE: **08/31/2021**

SUBJECT: **Miscellaneous Materials**

Section 714, Miscellaneous Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-714.01--Water.

907-714.01.1--General. Delete the last sentence of the second paragraph in Subsection 714.01.1 on page 794.

907-714.01.2--Water for Use in Concrete. Delete Subsection 714.01.2 on page 794, and substitute the following:

Water from municipal sources is permitted be used as mixing water in concrete, mortar, and grout without Department testing. Water from non-municipal water sources used in mixing of concrete, mortar, and grout which does not meet the requirements in Subsection 714.01.1 shall be tested for conformance as required in AASHTO M157, Table 1 and Table 2.

907-714.01.3--Water for Use in Chemically Stabilized Based. Delete the first sentence of first paragraph in Subsection 714.01.3 on page 794, and substitute the following:

Water used in the construction of bases that contain cement, lime, or other chemical additive shall be as set out in Subsection 714.01.1. Water from municipal sources is permitted to be used without testing for conformance to the requirements below. If water is not from a municipal source, it shall not contain impurities in excess of the following limits:

Delete Subsection 714.01.6 on page 795, and substitute the following.

907-714.01.6--Blank.

907-714.05--Fly Ash.

907-714.05.1--General. Delete the first sentence of the fifth paragraph in Subsection 714.05.1 on page 797.

907-714.13--Geotextiles.

907-714.13.11--Tables. Delete Table 1 in Subsection 714.13.11 on page 813, and substitute the following.

Table 1 - Geotextiles

Type Designation	I[1]	II[1]	III	IV	V	VI		VII		VIII	IX	
	Sediment Control		Drainage	Paving	Separation & Drainage	Separation, Stabilization & Reinforcement				High Strength		
Physical Property[2]						Woven	Non-Woven	Woven	Non-Woven			**Test Method**
Grab Strength (lb)	50	90	110	90	200	280	180	450	280	----	----	ASTM D 4632
Elongation (%)	----	50% max @ 45 lb	20% min	50% min @ break	50% min	50% max	50% Min	50% max	50% Min	----	----	ASTM D 4632
Seam Strength (lb)	----	----	70	----	180	240	160	400	240	----	----	ASTM D 4632
Puncture Strength (lb)	----	----	40	----	80	110	75	180	115	----	----	ASTM D 6241
Trapezoidal Tear (lb)	----	----	40	----	80	100	70	150	100	----	----	ASTM D 4533
Asphalt Retention (gal/yd^2)	----	----	----	0.2	----	----	----	----	----	----	----	ASTM D 6140
Permittivity (sec^{-1}) min	0.05	0.05	0.5	----	0.2	0.2	0.2	0.2	0.2	----	----	ASTM D 4491
AOS Woven (mm) max	0.60	0.60	0.6	----	0.6	0.43	----	0.43	----	----	----	ASTM D 4751
AOS Non-Woven (mm) max	0.84	0.84	0.43	----	0.43	----	0.43	----	0.43	----	----	
Tensile Strength after UV (% Retained)	70% @ 500 hr	70% @ 500 hr	50% @ 500 hr	----	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	----	----	ASTM D 4355
Melting Point °(F)	----	----	----	325	----	----	----	----	----	----	----	ASTM D 276
Minimum Ultimate Tensile Strength[3] (lb/in)	----	----	----	----	----	----	----	----	----	660	2000	ASTM D 4595

Notes: 1 - All property values, with the exception of apparent opening size (AOS), represent minimum average roll values in the weakest principal direction. Values for AOS represent the maximum average roll values, 2 - Values not identified in this table should meet manufacturer certification for the use and application, 3- Machine direction

Delete Subsection 714.15 on pages 816 and 817 and substitute the following.

907-714.15--Geogrids.

907-714.15.1–General. A geogrid is defined as a geosynthetic formed by a regular network of connected elements with apertures greater than 0.25 inch to allow interlocking with surrounding soil, rock, and other surrounding materials to function primarily as reinforcement.

Geogrid shall be manufactured from an expanded strain hardened monolithic polymer sheet composed of one or more synthetic polymers and shall be mildew resistant and inert to biological degradation and naturally encountered chemicals, alkalis and acids. The geogrid shall contain stabilizers and/or inhibitors, or a resistance finish or covering to make it resistant to deterioration from direct sunlight, ultraviolet rays, and heat.

Geogrid manufacturers shall participate in and be in compliance with the American Association of State Highway Transportation Officials (AASHTO) National Transportation Product Evaluation Program's (NTPEP) Geosynthetics audit program. Geogrid shall meet the requirements of Table II for the application and type shown on the plans and shall be selected from the Department's Approved Lists.

907-714.15.1.1--Geogrid for Retaining Walls and Reinforced Soil Slopes. Geogrid for retaining walls and reinforced soil slopes shall be creep tested in accordance with AASHTO R69 and meet Long Term Design Load, Minimum Ultimate Tensile Strength, and open area criteria listed in Table II. Manufacturers shall perform at least one long-term creep test for no less than 10,000 hours in accordance to ASTM D 5262 for each polymer or composition of polymers from which the geogrid is produced. The long-term design load that shall be reported for design use, shall be that load at which no more than 10% strain occurs over a 100-year design life of the geogrid, as calculated in accordance with AASHTO R69. Long-term design loads shall be reported unfactored, and the AASHTO strength reduction factors (Durability and Installation, and safety factors) will be considered by the Department's Geotechnical Branch on a site specific design basis.

907-714.15.1.2--Geogrid for Subgrade Stabilization. Geogrid for subgrade stabilization shall meet Minimum Ultimate Tensile Strength and open area criteria listed in Table II.

907-714.15.2--Marking, Shipment, and Storage. Each roll or container of geogrid shall be visibly labeled with the name of the manufacturer, trade name of the product, lot number, and quantity of material. In addition, each roll or container shall be clearly tagged to show the type designation that corresponds to that required by the plans. During shipment and storage the geogrid shall be protected from direct sunlight, and temperatures above 120°F or below 0°F. The geogrid shall either be wrapped and maintained in a heavy duty protective covering or stored in a safe enclosed area to protect from damage during prolonged storage.

907-714.15.3--Manufacturer Certification. The Contractor shall furnish the Engineer three copies of the manufacturer's certified test reports indicating that the geogrid furnished conforms to the requirements of the specifications and is of the same composition as the originally approved

by the Department.

907-714.15.4--Acceptance Sampling and Testing. Final acceptance of each shipment will be based upon results of tests performed by the Department on verification samples submitted from the project, as compared to the manufacturer's certified test reports. The Engineer will select one roll or container at random from each shipment for sampling. As sample extending full width of the randomly selected roll or container and being at least five (5) square yards in area will be obtained and submitted by the Engineer. All material samples shall be provided at no cost to the State.

TABLE II
GEOGRIDS

Physical Properties	Type Designation						Test Method
	I	II	III	IV	V	VI	
Long Term Design Load[1], pounds per foot, Machine Direction	250	500	750	1500	2500	3500	AASHTO R69, ASTM D5262
Minimum Ultimate Tensile Strength[2], pounds per foot, Machine Direction	500	1000	1500	3000	5000	7000	ASTM D6637
Open Area, percent	70	70	50	50	50	50	Direct Measurement

[1] Minimum design criteria requirement.
[2] Minimum Average Roll Value (MARV).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-718-1 **CODE: (SP)**

DATE: 12/07/2021

SUBJECT: Timber and Dimension Lumber

Section 718, Timber and Dimension Lumber, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete the Subsections in Section 718 on pages 836 thru 838, and substitute the following.

907-718.01--General. All timber and dimension lumber shall be Southern pine and shall conform in all respects to applicable requirements of AASHTO M 168. The Department reserves the right to sample and to test all materials at any time; all inspection, testing, and certification of materials will be performed in accordance with the requirements of the current version of the Department's *Materials Division Inspection, Testing, and Certification Manual*.

Timber and dimension lumber shall be furnished in the sizes shown on the plans or as specified. Unless otherwise specified, timber and dimension lumber shall be No. 1, or better, graded according to the latest American Lumber Standards.

Only one type of preservative shall be used for the treatment of materials for any one class of construction on a project, unless otherwise specified.

Where treated timber and dimensional lumber is to be used in non-highway construction or use, such as decking, handrails in walking trails, or in any manner where general public exposure by touch is possible, the treatment requirements will be as per project plans and/or approved by the State Materials Engineer.

907-718.02--Untreated Timber and Dimension Lumber. Untreated timber and dimension lumber shall conform to the requirements of AASHTO M 168.

907-718.03--Treated Timber and Dimension Lumber. Timber and dimension lumber to be treated shall meet the requirements herein specified and shall be treated as specified. Treated timber or dimensional lumber will not be accepted for use unless it has been inspected by an authorized representative of the Department and found to be satisfactory after treatment.

907-718.03.1--Blank.

907-718.03.2--Treatment.

907-718.03.2.1--General. All materials shall be treated in accordance with AASHTO M 133 unless otherwise directed by the Environmental Protection Agency (EPA).

907-718.03.2.2--Blank.

907-718.03.2.3--Inspection. Treated timber and dimension lumber shall be inspected by an authorized representative of the Department before being incorporated into the work. Treatment reports shall be provided to the Department for each lot of material supplied.

907-718.03.3--Blank.

907-718.03.4--Storage of Treated Material. All material treated for stock shall be stacked as compactly as possible on a well-drained surface. Material shall be supported on sills spaced as necessary, not to exceed 10 foot intervals and shall have at least one foot of air space beneath the stacks.

All materials treated with preservatives for use in buildings and applications where painting is required shall be dried after treatment. The treated wood shall be dried in accordance with American Lumber Standards.

907-718.04--Preservative. Preservatives shall be as specified in AASHTO M 133 unless otherwise directed by the Environmental Protection Agency (EPA).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-720-2 **CODE: (IS)**

DATE: 09/11/2018

SUBJECT: Acceptance Procedure for Glass Beads

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

907-720.01--Glass Beads.

907-720.01.4--Acceptance Procedures. Delete the last sentence of the paragraph in Subsection 720.01.4 on page 841, and substitute the following.

Acceptance sampling and testing of glass beads will be in accordance with the Department's Materials Division Inspection, Testing, and Certification Manual, Section 2.9.2 -- Glass Beads.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-721-2 **CODE: (IS)**

DATE: 01/08/2020

SUBJECT: Materials for Signing

Section 721, Materials for Signing, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-721.06--Reflective Sheeting.

907-721.06.2--Performance Requirements. Delete Table 4 and Table 5 in Subsection 721.06.2 on pages 860 & 861, and substitute the following.

MINIMUM COEFFICIENTS OF RETROREFLECTION
Candela per foot candle per square foot (cd/fc/ft^2)
Per ASTM Designation D4956

TABLE 4
Type IX Sheeting

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Fluorescent Yellow/Green	Fluorescent Yellow	Fluorescent Orange
0.2°	-4.0°	380	285	38	76	17	300	230	115
0.2°	+30.0°	215	162	22	43	10	170	130	65
0.5°	-4.0°	240	180	24	48	11	190	145	72
0.5°	+30.0°	135	100	14	27	6.0	110	81	41
1.0°	-4.0°	80	60	8.0	16	3.6	64	48	24
1.0°	+30.0°	45	34	4.5	9.0	2.0	36	27	14

TABLE 5
Type XI Sheeting

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown	Fluorescent Yellow/Green	Fluorescent Yellow	Fluorescent Orange
0.2°	-4.0°	580	435	58	87	26	17	460	350	175
0.2°	+30.0°	220	165	22	33	10	7.0	180	130	66
0.5°	-4.0°	420	315	42	63	19	13	340	250	125
0.5°	+30.0°	150	110	15	23	7.0	5.0	120	90	45
1.0°	-4.0°	120	90	12	18	5.0	4.0	96	72	36
1.0°	+30.0°	45	34	5.0	7.0	2.0	1.0	36	27	14

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

Date _____

Mississippi Transportation Commission
Jackson, Mississippi

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

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

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

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

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

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

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

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

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

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

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

SECTION 905 -- PROPOSAL (CONTINUED)

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

Respectfully Submitted,

DATE _____

_____
Contractor

BY _____
Signature

TITLE _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE _____

FAX _____

E-MAIL _____

(To be filled in if a corporation)

Our corporation is chartered under the Laws of the State of _____ and the names, titles and business addresses of the executives are as follows:

_____
President Address

_____
Secretary Address

_____
Treasurer Address

The following is my (our) itemized proposal.

Overlay approximately 9 miles on SR 63 from Sally Parker Rd. to US 98, known as State Project No. MP-6063-20(017) / 307910301 in George County.

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
				Roadway Items	
0010	202-B150		3,312	Linear Feet	Removal of Guard Rail Including Post, Blockouts & Hardware
0020	202-B183		16	Each	Removal of Object Markers
0030	202-B240		6,134	Linear Feet	Removal of Traffic Stripe
0040	216-A001		200	Square Yard	Solid Sodding
0050	221-A001	(S)	14	Cubic Yard	Concrete Paved Ditch
0060	403-A014	(BA1)	22,589	Ton	9.5-mm, MT, Asphalt Pavement
0070	403-A015	(BA1)	11,940	Ton	9.5-mm, ST, Asphalt Pavement
0080	403-B012	(BA1)	2,075	Ton	9.5-mm, ST, Asphalt Pavement, Leveling
0090	406-A002		35,652	Square Yard	Cold Milling of Bituminous Pavement, All Depths
0100	407-A001	(A2)	40,465	Gallon	Asphalt for Tack Coat
0110	423-A001		30	Mile	Rumble Strips, Ground In
0120	606-B003		2,400	Linear Feet	Guard Rail, Class A, Type 1, 'W' Beam, Metal Post
0130	606-D001		16	Each	Guard Rail, Bridge End Section
0140	606-E001		16	Each	Guard Rail, Terminal End Section
0150	612-B001		120	Cubic Yard	Flowable Fill, Non-Excavatable
0160	618-A001		1	Lump Sum	Maintenance of Traffic
0170	618-B001		1	Square Feet	Additional Construction Signs ($10.00)
0180	619-A1001		34	Mile	Temporary Traffic Stripe, Continuous White
0190	619-A2001		28	Mile	Temporary Traffic Stripe, Continuous Yellow
0200	619-A3001		36	Mile	Temporary Traffic Stripe, Skip White
0210	619-A5001		35,165	Linear Feet	Temporary Traffic Stripe, Detail
0220	619-A6002		1,236	Linear Feet	Temporary Traffic Stripe, Legend
0230	620-A001		1	Lump Sum	Mobilization
0240	626-A001		18	Mile	6" Thermoplastic Double Drop Traffic Stripe, Skip White
0250	626-B002		17	Mile	6" Thermoplastic Double Drop Traffic Stripe, Continuous White
0260	626-E001		14	Mile	6" Thermoplastic Double Drop Traffic Stripe, Continuous Yellow
0270	626-G002		11,745	Linear Feet	Thermoplastic Detail Stripe, White
0280	626-G003		20,065	Linear Feet	Thermoplastic Detail Stripe, Yellow
0290	626-H004		1,126	Square Feet	Thermoplastic Legend, White
0300	626-H005		1,236	Linear Feet	Thermoplastic Legend, White
0310	627-J001		150	Each	Two-Way Clear Reflective High Performance Raised Markers
0320	627-K001		3,300	Each	Red-Clear Reflective High Performance Raised Markers
0330	627-L001		1,350	Each	Two-Way Yellow Reflective High Performance Raised Markers
0340	630-F006		56	Each	Delineators, Guard Rail, White
0350	630-F007		56	Each	Delineators, Guard Rail, Yellow

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
0360	630-G005		16	Each	Type 3 Object Markers, OM-3R or OM-3L, Post Mounted
0370	907-411-A001	(BA1)	13,563	Ton	Ultra Thin Asphalt Pavement
				ALTERNATE GROUP AA NUMBER 1	
0380	304-D001	(GT)	5,796	Ton	Granular Material, Crushed Concrete
				ALTERNATE GROUP AA NUMBER 2	
0390	304-F002	(GT)	5,796	Ton	Size 610 Crushed Stone Base
				ALTERNATE GROUP AA NUMBER 3	
0400	304-F003	(GT)	5,796	Ton	Size 825B Crushed Stone Base
				ALTERNATE GROUP BB NUMBER 1	
0410	628-G001		2,727	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Skip White
0420	628-H001		2,727	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous White
0430	628-J001		2,727	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow
				ALTERNATE GROUP BB NUMBER 2	
0440	907-624-A002		2,727	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Skip White
0450	907-624-B002		2,727	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White
0460	907-624-D002		2,727	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow

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.

* *

COMBINATION BID PROPOSAL

This proposal is tendered as one part of a Combination Bid Proposal utilizing option ___* of Subsection 102.11 on the following contracts:

* Option to be shown as either (a), (b), or (c).

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

(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)

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

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

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

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

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

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

CERTIFICATE

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

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

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

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

Contractor _____

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CERTIFICATION

I,_____,
(Name of person signing bid)

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

_____
(Name of Firm, partnership, or Corporation)

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

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

on Project No. **MP-6063-20(017)/ 307910301000**

in **George** 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-6063-20(017)/ 307910301000**

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

STATE OF MISSISSIPPI,
COUNTY OF HINDS

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

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

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

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

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

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

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

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

Witness our signatures this the____ day of _____,_____.

_____
Contractor(s)

By_____

Title_____

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

_____

MISSISSIPPI TRANSPORTATION COMMISSION

By_____
Executive Director

_____
Secretary to the Commission

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

Revised 8/06/2003

SECTION 903
PERFORMANCE AND PAYMENT BOND

CONTRACT BOND FOR: **MP-6063-20(017)/ 307910301000**

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

STATE OF MISSISSIPPI,
COUNTY OF HINDS

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

residing at_____ in the State of _____

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

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

_____

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

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

_____

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

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

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 PRESENTS, that we_____
Contractor

_____
Address

_____
City, State ZIP

As principal, hereinafter called the Principal, and _____
Surety

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

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

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

Dollars($_____)

for the payment of which sum will and truly to be made, the said Principal and said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for **Overlay approximately 9 miles on SR 63 from Sally Parker Rd. to US 98, known as State Project No. MP-6063-20(017) / 307910301 in George County.**

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

Signed and sealed this _____day of _____, 20___

_____
(Principal) (Seal)

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

_____
(Surety) (Seal)

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

_____
(MS Agent)

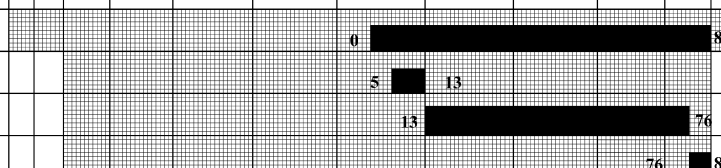
_____
Mississippi Insurance ID Number

FORM CSD-612
Rev. 1 / 2015

YEAR 2022 PROGRESS SCHEDULE YEAR 2023

PROJECT NUMBER MP-6063-20(017)/307910301
COUNTY George

WORK PHASE NO.	WORK PHASE DESCRIPTION	LINE NUMBERS
1	Miscellaneous	10-30, 100-130 & 150-220
2	Inlet Repair	40, 50 & 140
3	Gran. Mat'l. & Pavement	60-90 & 360-390
4	Permanent Stripe	230-350 & 4000-450
	LET:	April 26, 2022
	NOA:	May 10, 2022
	NTP/BCT:	July 14, 2022 FLEX
	W.D.:	81



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

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