



ITEM NUMBER
2311 033

STATE OF MICHIGAN DEPARTMENT OF TRANSPORTATION

PROPOSAL

1.74 mi of hot mix asphalt cold milling and resurfacing, shoulder widening, drainage, signing and pavement markings on Eastman Road from Monroe Road to Mier Road, Midland County. This is a Local Agency project.

BIDS WILL BE ELECTRONICALLY DOWNLOADED AT 10:30 AM LOCAL TIME, ON 11/3/23

<u>CONTRACT ID</u>	<u>CONTROL SECTION</u>	<u>PROJECT</u>	<u>FEDERAL NUMBER</u>
56000-212909	STUL 56000	212909A	23A0932

The bidder has downloaded and examined the plans, specifications, special provisions, and related materials in the proposal, as well as the location of the work described in the proposal for this project, has obtained all addenda issued for this project, is fully informed as to the nature of the work and the conditions relating to its performance and understands that the quantities shown are approximate only and are subject to either increase or decrease.

The bidder hereby proposes to furnish all necessary machinery, tools, apparatus, and other means of construction, do all the work, furnish all the materials except as otherwise specified and, for each unit price, lump sum, or one each named in the itemized bid, to complete the work in strict conformity with the plans therefore and the entire proposal which is incorporated by reference in these pages, and in strict conformity with the requirements of the 2020 Standard Specifications for Construction, Michigan Department of Transportation and such other special provisions and supplemental specifications as may be a part of the proposal for this project.

The bidder further proposes to do such extra work as may be authorized by the Department, prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon before such extra work is begun.

The bidder hereby certifies that if it is not prequalified in all classifications required by the advertisement for this project, it has taken such preparatory steps as may be necessary and will within the time specified in Subsection 102.14 of the 2020 Standard Specifications for Construction, designate subcontractor(s) that are fully prequalified in the classification(s) to perform the work.

THE BIDDER UNDERSTANDS AND AGREES THAT THE DEPARTMENT RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS AND NO CONTRACTUAL RELATIONSHIP SHALL EXIST BETWEEN THE BIDDER AND THE DEPARTMENT FOR THE WORK DESCRIBED HEREIN UNTIL SUCH TIME AS THE CONTRACT HAS BEEN FORMALLY EXECUTED BY BOTH THE BIDDER AND THE DEPARTMENT.

The bidder agrees upon submitting this bid that its agents, officers or employees have not directly or indirectly entered into any agreements, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal for the above project.

Unless the bidder gives MDOT advance written notice, MDOT may correspond directly with the insurance agencies concerning questions and problems with the insurance certificates, bonds and related materials. It is the obligation of the bidder to monitor the filing of the insurance certificates, bonds, and related materials with MDOT and the bidder is responsible for any failure to provide MDOT with the required materials, on a timely basis and in proper form.

Subject to Subsection 102.16 of the 2020 Standard Specifications for Construction, the bidder agrees to pay to the Michigan Department of Transportation the bid guaranty sum of **\$50,000.00** if the bidder fails to provide the required materials and/or execute the contract in accordance with Subsection 102.14 of the 2020 Standard Specifications for Construction.

Mt. Pleasant TSC



Schedule of Items

Report v1

Proposal ID: 56000-212909

Project(s): 212909A

Letting Number: 231103

Call Number: 033

Contractor: _____

Section Information

Section ID	Section Description	Section Total	Alt. Set ID	Alt. Member ID
1	Road Work			

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0005	1100001 - Mobilization, Max\$144,700.00	1.000 LSUM		
0010	2010001 - Clearing	1.000 Acre		
0015	2020002 - Tree, Rem, 19 inch to 36 inch	2.000 Ea		
0020	2020004 - Tree, Rem, 6 inch to 18 inch	5.000 Ea		
0025	2030001 - Culv, Rem, Less than 24 inch	24.000 Ea		
0030	2030002 - Culv, Rem, 24 inch to 48 inch	1.000 Ea		
0035	2030005 - Culv, End, Rem, Less than 24 inch	7.000 Ea		
0040	2030015 - Sewer, Rem, Less than 24 inch	233.000 Ft		
0045	2040050 - Pavt, Rem	52.000 Syd		
0050	2050006 - Ditch Cleanout	40.000 Sta		
0055	2050010 - Embankment, CIP	1,100.000 Cyd		
0060	2050016 - Excavation, Earth	6,900.000 Cyd		
0065	2050041 - Subgrade Undercutting, Type II	200.000 Cyd		



Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0070	2080012 - Erosion Control, Check Dam, Stone	20.000 Ft		
0075	2080020 - Erosion Control, Inlet Protection, Fabric Drop	19.000 Ea		
0080	2080034 - Erosion Control, Sediment Trap	1.000 Ea		
0085	2080036 - Erosion Control, Silt Fence	2,733.000 Ft		
0090	3010002 - Subbase, CIP	5,628.000 Cyd		
0095	3020016 - Aggregate Base, 6 inch	7,935.000 Syd		
0100	3060020 - Maintenance Gravel	402.000 Ton		
0105	3070008 - Approach, CI I, 6 inch	1,187.000 Syd		
0110	3070028 - Approach, CI II, 6 inch	856.000 Syd		
0115	3077031 - _Shld, CI II, Modified	720.000 Ton		
0120	4010012 - Culv End Sect, 12 inch	2.000 Ea		
0125	4010015 - Culv End Sect, 15 inch	46.000 Ea		
0130	4010018 - Culv End Sect, 18 inch	3.000 Ea		
0135	4010133 - Culv, CI A, 18 inch	48.000 Ft		
0140	4010134 - Culv, CI A, 24 inch	42.000 Ft		
0145	4010540 - Culv, CI E, 15 inch	35.000 Ft		
0150	4010541 - Culv, CI E, 18 inch	76.000 Ft		
0155	4010607 - Culv, CI F, 12 inch	32.000 Ft		

Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0160	4010608 - Culv, CI F, 15 inch	737.000 Ft		
0165	4010609 - Culv, CI F, 18 inch	86.000 Ft		
0170	4010919 - Culv, Slp End Sect, 1 on 4, 18 inch, Longit	9.000 Ea		
0175	4010924 - Culv, Slp End Sect, 1 on 4, 24 inch, Transv	2.000 Ea		
0180	4020005 - Sewer, CI A, 15 inch, Tr Det A	506.000 Ft		
0185	4020006 - Sewer, CI A, 18 inch, Tr Det A	133.000 Ft		
0190	4020034 - Sewer, CI A, 15 inch, Tr Det B	119.000 Ft		
0195	4020035 - Sewer, CI A, 18 inch, Tr Det B	112.000 Ft		
0200	4020601 - Sewer, CI E, 15 inch, Tr Det B	97.000 Ft		
0205	4021205 - Sewer Tap, 15 inch	2.000 Ea		
0210	4021206 - Sewer Tap, 18 inch	2.000 Ea		
0215	4021260 - Trench Undercut and Backfill	10.000 Cyd		
0220	4030005 - Dr Structure Cover, Adj, Case 1	2.000 Ea		
0225	4030006 - Dr Structure Cover, Adj, Case 2	4.000 Ea		
0230	4030010 - Dr Structure Cover, Type B	5.000 Ea		
0235	4030040 - Dr Structure Cover, Type G	4.000 Ea		
0240	4030210 - Dr Structure, 48 inch dia	7.000 Ea		
0245	4030250 - Dr Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	1.000 Ft		

Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0250	4030315 - Dr Structure, Tap, 15 inch	1.000 Ea		
0255	4030318 - Dr Structure, Tap, 18 inch	2.000 Ea		
0260	4040063 - Underdrain, Subbase, 6 inch	500.000 Ft		
0265	4040093 - Underdrain Outlet, 6 inch	75.000 Ft		
0270	4040113 - Underdrain, Outlet Ending, 6 inch	5.000 Ea		
0275	5010002 - Cold Milling HMA Surface	27,985.000 Syd		
0280	5010005 - HMA Surface, Rem	1,911.000 Syd		
0285	5010025 - Hand Patching	182.000 Ton		
0290	5010061 - HMA Approach	560.000 Ton		
0295	5012025 - HMA, 4EML	636.000 Ton		
0300	5012037 - HMA, 5EML	2,791.000 Ton		
0305	8010005 - Driveway, Nonreinf Conc, 6 inch	69.000 Syd		
0310	8020056 - Shld Gutter, Conc, Det 2	1.000 Ea		
0315	8070044 - Guardrail Approach Terminal, Type 2M	2.000 Ea		
0320	8070050 - Guardrail Departing Terminal, Type B	7.000 Ea		
0325	8070052 - Guardrail Departing Terminal, Type MGS	1.000 Ea		
0330	8070080 - Guardrail Reflector	130.000 Ea		
0335	8070095 - Post, Mailbox	32.000 Ea		

Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0340	8072121 - Guardrail, Long Span, Det MGS-1	1.000 Ea		
0345	8072142 - Guardrail, Curved, Type B, 96 inch Post	100.000 Ft		
0350	8072146 - Guardrail, Curved, Type MGS-8, 108 inch Post	13.000 Ft		
0355	8072180 - Guardrail, Type MGS-8, 108 inch Post	2,304.000 Ft		
0360	8100371 - Post, Steel, 3 pound	262.000 Ft		
0365	8100402 - Sign, Type III, Erect, Salv	7.000 Ea		
0370	8100403 - Sign, Type III, Rem	15.000 Ea		
0375	8100404 - Sign, Type IIIA	40.000 Sft		
0380	8100405 - Sign, Type IIIB	29.000 Sft		
0385	8100425 - Sign, Type VB	18.000 Sft		
0390	8100616 - Reflective Panel for Permanent Sign Support, 6 foot	5.000 Ea		
0395	8102003 - Sign, Type III, Rem, Salv	7.000 Ea		
0400	8102010 - Ground Mtd Sign Support, Rem	16.000 Ea		
0405	8110045 - Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	126.000 Ft		
0410	8110063 - Pavt Mrkg, Ovly Cold Plastic, Lt Turn Arrow Sym	2.000 Ea		
0415	8110071 - Pavt Mrkg, Ovly Cold Plastic, Rt Turn Arrow Sym	2.000 Ea		



Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0420	8110078 - Pavt Mrkg, Ovly Cold Plastic, Thru Arrow Sym	2.000 Ea		
0425	8110231 - Pavt Mrkg, Waterborne, 4 inch, White	20,195.000 Ft		
0430	8110232 - Pavt Mrkg, Waterborne, 4 inch, Yellow	6,306.000 Ft		
0435	8110251 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White	20,195.000 Ft		
0440	8110252 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow	6,306.000 Ft		
0445	8120012 - Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	4.000 Ea		
0450	8120013 - Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	4.000 Ea		
0455	8120035 - Channelizing Device, 42 inch, Fluorescent, Furn	400.000 Ea		
0460	8120036 - Channelizing Device, 42 inch, Fluorescent, Oper	400.000 Ea		
0465	8120140 - Lighted Arrow, Type C, Furn	2.000 Ea		
0470	8120141 - Lighted Arrow, Type C, Oper	2.000 Ea		
0475	8120170 - Minor Traf Devices	1.000 LSUM		
0480	8120246 - Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	737.000 Ft		
0485	8120252 - Plastic Drum, Fluorescent, Furn	30.000 Ea		
0490	8120253 - Plastic Drum, Fluorescent, Oper	30.000 Ea		



Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0495	8120350 - Sign, Type B, Temp, Prismatic, Furn	671.000 Sft		
0500	8120351 - Sign, Type B, Temp, Prismatic, Oper	671.000 Sft		
0505	8120352 - Sign, Type B, Temp, Prismatic, Spec, Furn	75.000 Sft		
0510	8120353 - Sign, Type B, Temp, Prismatic, Spec, Oper	75.000 Sft		
0515	8120370 - Traf Regulator Control	1.000 LSUM		
0520	8130010 - Riprap, Plain	71.000 Syd		
0525	8162001 - Slope Restoration, Non-Freeway, Type A	3,200.000 Syd		
0530	8162006 - Slope Restoration, Non-Freeway, Type F	9,510.000 Syd		
0535	8167011 - _Slope Restoration, Non-Freeway, Type G	5,740.000 Syd		
0540	8210001 - Monument Box	1.000 Ea		
0545	8210005 - Monument Box Adj	4.000 Ea		
0550	8227001 - _Sinusoidal Corrugations, Milled, HMA Centerline	8,704.000 Ft		
0555	8230431 - Gate Box, Adj, Case 1	1.000 Ea		
0560	8230432 - Gate Box, Adj, Case 2	6.000 Ea		

Section 1 Total:

Total Bid:

Letting Date:

Item No:

Contract ID:

DESIGNATED and SPECIALTY ITEMS

Designated Items:

Company Name of Prequalified Subcontractor:

(Company Name)

(Company Name)

(Company Name)

(Company Name)

(Company Name)

(Company Name)

Specialty Items:

(Company Name)

(Company Name)

See next page for information on completing this page

Rev. (12/22)

INFORMATION ON COMPLETION OF DESIGNATED AND SPECIALTY ITEMS PAGE

The contractor may sublet the item(s) of work stipulated on the DESIGNATED and SPECIALTY ITEMS page in this bid in accordance with Section 108.01 of the 2020 Standard Specifications, Section VII of the required provisions for Federal-Aid Contracts (with the exception noted in the following paragraph), and the following instructions.

The percentage of contract work performed by a contractor's own organization shall comply with Section 108.01 of the 2020 Standard Specifications, rather than the lower percentage allowed by Section VII of FHA required contract provisions (form FHWA 1273). Section 108.01 of the 2020 Standard Specifications requires thirty-five percent (35%) performance by a contractor's own organization.

If the contractor **IS NOT** prequalified in EITHER the DESIGNATED or SPECIALTY ITEMS noted in this bid, the contractor MUST, prior to contract award, indicate the company name of a prequalified subcontractor in the space provided. If such company name is provided, the contractor MUST sublet the appropriate items to the prequalified subcontractor named, **unless the subcontractor is not prequalified at the time the work is to be performed, or the subletting of the item to another prequalified subcontractor is agreed to in writing by both the contractor and the named subcontractor.**

If the contractor **IS** prequalified in EITHER the DESIGNATED or SPECIALTY ITEMS noted in this bid and does not intend to do the work with its own forces, the contractor may indicate the company name of a prequalified subcontractor in the space provided. If such company name is provided, the contractor MUST sublet the appropriate items to the prequalified subcontractor named, **unless the subcontractor is not prequalified at the time the work is to be performed, or the subletting of the item to another prequalified subcontractor is agreed to in writing by both the contractor and the named subcontractor.**

If the contractor **IS** prequalified in the DESIGNATED or SPECIALTY ITEMS noted and NO subcontractor is named, any later decision to subcontract said items of work is subject to the sixty-five percent (65%) limitation of subcontracting.

At the time that a subcontractor is named in a bid to perform any of the DESIGNATED or SPECIALTY ITEMS, that subcontractor must be prequalified for the classification which includes the work it is to perform. In selecting a subcontractor, the prime contractor shall assure itself that the prospective subcontractor has sufficient equipment, working force, and supervision to complete the designated or specialty items to be subcontracted within the specified time limit.

It is understood and agreed that the prequalification of the subcontractor by the Department pursuant to 1933 P.A. 170 is not a guarantee or warranty of the subcontractor's ability to perform or complete the work contained herein.

Rev. (3/22)

Table of Contents

Cover Page	1
Schedule of Items	2
Subcontract Provisions	10
Table of Contents	
Advertising Notice	15
Progress Clause	16
Maintaining Traffic incl. Details	17
100-GEN-KEY	23
101-GEN-SPACING-CHARTS	24
102-GEN-NOTES	27
103-GEN-SIGN	29
107-GEN-SPEED	34
110-TR-NFW-2L	36
122-NFW-SHL-(R)	37
WZD-100-A	38
WZD-125-E	49
Unique Special Provisions	52
Div 1 General Provisions	52
20TM107(A145) INSURANCE	52
Div 2 Earthwork	53
20TM202(A395) TREE REMOVAL AND CLEARING	53
Div 3 Bases	57
SHLD, CL II, MODIFIED	57
Div 5 Hot Mix Asphalt Pavements & Surface Treatments	58
20TM-501-A270-03 HOT MIX ASPHALT PRICES FOR ADJUSTMENTS	58
Div 8 Incidental Construction	59
20TM816(A385) SLOPE RESTORATION, NON-FREEWAY	59
20TM822(A380) NON-FREEWAY CENTERLINE SINUSOIDAL CORRUGATIONS	64
Special Provisions for this Project	67
20SP-1001A-01 MIXING PORTLAND CEMENT CONCRETE	67
20SP-1002A-01 ALKALI SILICA REACTIVITY OF FINE AGGREGATE USED IN PORTLAND CEMENT CONCRETE	68
20SP-1003B-01 QUALITY INDEX FOR PORTLAND CEMENT CONCRETE (FOR LOCAL AGENCY PROJECTS ONLY)	70
20SP-102C-01 DISSEMINATION OF PUBLIC RELATIONS INFORMATION	74
20SP-104A-01 VALUE ENGINEERING CHANGE PROPOSAL	75
20SP-104C-02 CONSTRUCTION DOCUMENT MANAGEMENT	79
20SP-104D-01 PREVAILING WAGE AND LABOR COMPLIANCE SYSTEM	82

20SP-105A-04 SOURCE OF STEEL AND IRON (BUY AMERICA)	84
20SP-105B-02 SOURCE OF CONSTRUCTION MATERIALS	86
20SP-107C-01 E-VERIFY	87
20SP-107D-01 LABOR COMPLIANCE	88
20SP-107F-01 EASTERN MASSASAUGA RATTLESNAKE	91
20SP-108C-02 UTILIZING DISADVANTAGED BUSINESS ENTERPRISE TRUCKING VENDORS ...	93
.....	
20SP-109A-01 PROMPT PAYMENT	94
20SP-208A-01 NON-COMPLIANCE WITH SOIL EROSION AND SEDIMENTATION CONTROL	
REQUIREMENTS	98
20SP-208B-01 EROSION CONTROL, INLET PROTECTION, FABRIC DROP	100
20SP-501A-01 SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS	102
20SP-501F-01 RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS	103
.....	
20SP-501I-01 ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS ..	105
.....	
20SP-802B-01 BACKFILL FOR CONCRETE CURB, GUTTER, AND DIVIDERS	112
20SP-807F-01 GUARDRAIL APPROACH TERMINAL, TYPE 2M	113
20SP-807G-01 GUARDRAIL LONG SPAN	116
20SP-807H-01 GUARDRAIL, CURVED GUARDRAIL, AND TEMPORARY GUARDRAIL	117
.....	
20SP-810F-02 GROUND MOUNTED SIGN SUPPORTS, REMOVE	118
20SP-811C-01 PAVEMENT MARKING EQUIPMENT	119
20SP-812A-02 MOBILE ATTENUATOR	121
20SP-816B-01 EXCAVATED TOPSOIL OR SALVAGED TOPSOIL	125
20SP-900A-01 INDUSTRIAL BY-PRODUCTS AND BENEFICIAL RE-USE	126
20SP-901A-01 PORTLAND CEMENT (TYPE II)	127
20SP-902A-01 AGGREGATE, 46G	129
20SP-912A-01 MICRONIZED COPPER WATER BASED WOOD PRESERVATIVE SYSTEMS	130
.....	
20SP-917A-01 TOPSOIL COMPOSITION	131
20SP-920A-01 WET REFLECTIVE PAVEMENT MARKINGS	132
20SP-922A-02 TEMPORARY PAVEMENT MARKING, TYPE R TAPE REVISION	133
Notice to Bidders for this Project	134
20NB01-02 MULTIPLE DAVIS-BACON WAGE DECISIONS	134
20NB02 BID RIGGING	135
20NB03 FRAUD AND ABUSE HOTLINE	136
20NB04-05 USE OF CRUSHED CONCRETE FOR DENSE-AND OPEN-GRADED AGGREGATES	137
.....	
Utility Coordination	138
Supplemental Specifications	140
20SS-001A-14 ERRATA TO THE 2020 STANDARD SPECIFICATIONS	140
Log of Project (Title Sheet)	150

Special Detail Sheets	151
R-60-J	151
R-62-H	167
R-66-E	171
R-72-D	175
R-80-F	181
R-88-E	189
R-100-I	193
R-110-B	197
R-112-J	200
SPECIAL DETAIL 21	210
PAVE-904-B	212
Notice of Bidders - Contact Person	214
Labor Rates	215



Notice of Advertisement

Report v1

Letting of: 231103

10:30 AM, Local Time 425 W. OTTAWA ST., LANSING, MI 48933

Call Number	Contract ID	Control Section	Project Number	Federal Project Number
033	56000-212909	STUL 56000	212909A	23A0932

Description: 1.74 mi of hot mix asphalt cold milling and resurfacing, shoulder widening, drainage, signing and pavement markings on Eastman Road from Monroe Road to Mier Road, Midland County. This is a Local Agency project.

Required DBE Participation: 4.00%

Net Classification Required For This Project: ** 1591 Cb or 1591 Ea **

Estimated Pages For Plans: 65

Completion Date: 10/11/2024

In addition to the above minimum prequalification requirement for prime contractors this project includes subclassifications of Cb and Ea. If the prime contractor is not prequalified in those subclassifications it must use prequalified subcontractors. Those subcontractors must be designated prior to award of the contract to the confirmed low bidder.

Date Advertised: 10/6/2023

See proposal for bidder guaranty information.

Proposal and plans, if applicable, are available for examination online at
<<http://mdotcf.state.mi.us/public/eprop/login/index.cfm>>

PROGRESS CLAUSE

After award, start work on the date approved by the Engineer, which must be no earlier than **March 15, 2024**.

In no case, may any work be commenced prior to receipt of formal notice of award by the Michigan Department of Transportation.

The Contractor shall prepare and submit a complete, detailed, signed Progress Schedule to the Engineer. The Engineer for this project is as follows:

Jonathan Myers, P.E.
Midland County Road Commission
2334 North Meridian Road
Sanford, MI 48657
(989) 687-9060
jon@midlandroads.com

The progress schedule submittal must include, as a minimum, the controlling work items for the completion of the project and the planned dates (or work days for a work day project) that the work items will be the controlling operations. All contract dates including open to traffic, project completion, interim completion and any other controlling dates in the contract must be included in the progress schedule.

All contract work for **Stage 1, Tree Clearing and Tree Removals**, must be complete and the road fully open to traffic by the interim completion date of **April 14, 2024**.

Begin all other contract work on **June 3, 2024**, or on a date approved by the Engineer.

All contract work, except for **Slope Restoration** and the second application of pavement markings, must be complete by the interim completion date of **August 30, 2024**

The entire project must be completed on or before the final project completion date of **October 11, 2024**.

Unless specific pay items are provided in the contract any extra costs incurred by the Contractor due to cold-weather protection and winter grading will not be paid for separately but will be included in the payment of other pay items in the contract.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project.

The named subcontractor(s) for Designated and/or Specialty Items, as shown in the Proposal, should attend the preconstruction meeting if such items materially affect the work schedule.

Failure by the Contractor to meet interim completion, open to traffic, and/or final completion dates will result in the assessment of liquidated damages in accordance with subsection 108.10 of the Standard Specifications for Construction.

The Contractor may be required to meet with Department representatives for a post-construction review meeting, as directed by the Engineer. The Engineer will schedule the meeting.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

ROWE: MCRC

1 of 6

AUGUST 2023

a. Description. This special provision consists of requirements and restrictions to maintain traffic on Eastman Road in Larkin Township, Midland County.

b. General. Maintain traffic throughout the project in accordance with the standard specifications, typicals, and supplemental specifications in the contract and as described on the plans for this project.

c. Construction Influence Area (CIA). The CIA includes the right-of-way of the following roadways, within the approximate limits described below:

1. On Eastman Road from approximately 1 mile south of Monroe Road to 1 mile north of Mier Road.

2. In addition, the CIA includes the right-of-way of any designated detour route or alternate route, intersecting roads and ramps adjacent to the work zone for a distance of approximately 1/4 mile in advance of the work zone or as far as the construction or detour signing extends. The roads include but are not limited to Monroe Road, Maple Hill Court, Oakhaven Court, Iron Woods Pass, Estate Drive, Blackhurst Road, Siebert Road, Hidden Meadows Drive, and Mier Road.

d. Traffic Restrictions. Maintain traffic in accordance with the Maintaining Traffic Typicals contained herein, except as noted below. Changes or adjustments to the Maintaining Traffic Typicals may be necessary to fit field conditions, subject to approval of the Engineer or as determined by the Engineer.

1. Utilize the following Maintaining Traffic Typicals:

- A. 100-GEN-KEY
- B. 101-GEN-SPACING-CHARTS
- C. 102-GEN-NOTES
- D. 103-GEN-SIGN
- E. 107-GEN-SPEED
- F. 110-TR-NFW-2L
- G. 122-NFW-SHL-(R)

H. WZD-100-A

I. WZD-125-E

2. Do not work, deliver material, or close lanes (other than approved stage closures) during the holiday periods as defined in Table 1.

Table 1: 2024 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 p.m. Friday, May 24 th	6:00 a.m. Tuesday, May 28 th
Independence Day	3:00 p.m. Wednesday, July 3 rd	6:00 a.m. Monday, July 8 th
Labor Day	3:00 p.m. Friday, August 30 th	6:00 a.m. Tuesday, September 3 rd

3. Do not work, deliver material, or close lanes (other than approved stage closures) during the Special Events as defined in Table 2.

Table 2: 2024 Special Events

Local Event	Start Dates and Time	End Date and Time
Midland County Fair	7:00 p.m. Saturday, August 10 th	6:00 a.m. Monday, August 19 th

4. Perform work and lane closures within the allowable time frames as shown in Tables 3 unless otherwise approved by the Engineer.

Table 3: Eastman Road Traffic Restrictions

Closure Type	Start Time	End Time	M	Tu	W	Th	F	Sa	Su
Shoulder Closures	00:00	24:00	∞	∞	∞	∞	∞	∞	∞
Single Lane Closures	00:00	06:00	0	0	0	0	0	0	0
	06:00	18:00	∞	∞	∞	∞	∞	∞	0
	18:00	24:00	0	0	0	0	0	0	0

∞ = Closure is allowed, and the frequency is not limited during the project timeframe
 # = The number of times closures can take place during the project timeframe.

5. Maintain a minimum of one lane of bi-directional traffic at all times using shoulder closures or traffic regulator control. One lane of traffic in each direction must be open in accordance with the restrictions in Table 3.

6. Maintain a minimum of one lane of traffic in each direction at all times on all signalized side roads.

7. No more than 1 closure is allowed at the same time.

A. The maximum closure length is 1 mile unless otherwise approved by the Engineer.

8. Close any dedicated lanes (turn, etc.) prior to the location under construction.

9. When a lane is closed, place channelizing devices at cross streets and major drives to form a radius that clearly defines the approaches to the through and turning traffic.

10. Restrict access to and from side roads for short durations at specific locations as the Engineer directs or approves. Where an intersection is closed or partially closed, allow the adjacent intersections one block to the north or south to remain open to traffic, unless otherwise approved by the Engineer. The following work items listed are eligible to take place under a traffic stoppage, cold milling HMA surface and HMA approach paving. Additional work items can be allowed as approved by the Engineer.

11. Maintain access to all driveways as directed by the Engineer unless prior agreements are made with the respective property owners. The cost of constructing driveways part width will not be paid for separately but will be considered included in the cost of other driveway pay items.

e. Traffic General.

1. For any lane open to traffic, provide a minimum lane width of 10 feet with 1 feet of shy distance on both sides unless identified otherwise on plans.

2. Do not close lanes or utilize traffic regulation sequences where work can be accomplished with a shoulder closure. Do not occupy any part of the active traffic lane with personnel or equipment when utilizing a shoulder closure.

3. Prior to shifting traffic onto shoulders or opening any lanes/shoulders, remove, by sweeping all accumulated debris that has collected within the shoulder and/or within the closed lane/shoulder.

4. A speed reduction will/will not be used. Set the work zone speed limit on Eastman Road to 45 miles per hour (mph).

5. Protect the work area at the end of each day. Close all open access points on the project to traffic with Type III barricades or other devices approved by the Engineer.

6. The Engineer will be responsible for notifying emergency services, transit agencies, law enforcement and schools prior to any lane closures, detours or major traffic shifts. In addition, the Contractor will be responsible for working with and complying with any coordination that is necessary with the Department and emergency services, transit agencies, law enforcement and schools. All costs associated with these coordination efforts will be considered included in the pay item "Minor Traf Devices".

7. Remove all temporary traffic control devices from Midland County Road Commission right-of-way during any shut down periods unless needed for directly maintaining or channelizing traffic. No additional payment will be made for removal and/or redeployment of these devices except for in the case of an approved extension of time.

8. Cover or remove construction signing that refers to work zone speed when work at a location is planned to be inactive for a period greater than 2 days, unless otherwise specified on the plans or as directed by the Engineer.

9. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed.

f. Traffic Regulator Control.

1. Maintain two-way traffic at all times on Eastman Road using traffic regulator control. A traffic regulator sequence is allowed to cover a maximum closure length of 1.0 mile. Place the arrow panel, signs and channelizing taper for the traffic regulator operation at locations approved by the Engineer for adequate visibility by oncoming traffic.

2. Do not utilize more than (1) traffic regulator operation(s) at one time on Eastman Road.

3. Crossroads must remain open to traffic at all times. Use intermediate traffic regulators at each intersection approach and commercial driveways within the closure limits, as directed by the Engineer. Use traffic regulator control as directed by the Engineer for cross street traffic while paving through intersections.

4. Follow the [Michigan Traffic Regulator's Instruction Manual](#) for operations at signalized intersections. Contact the maintaining agency prior to work on traffic signals. Only the maintaining agency may make changes to the traffic signal controllers.

g. Stage Construction. Maintain traffic in accordance with the restrictions listed in section d. Traffic Restrictions and the sequence of operations contained herein. Use of an alternate traffic control plan is subject to review and approval by the Engineer.

1. Stage 1.

A. Complete tree removals and clearing.

B. Maintain one lane of traffic in each direction in accordance with Maintaining Traffic Typical 110-TR-NFW-2L or 122-NFW-SHL-(R) if work can safely be completed with a shoulder closure.

2. Stage 2.

A. Complete shoulder widening to leveling course and drainage improvements.

B. Maintain one lane of traffic in each direction in accordance with Maintaining Traffic Typical 110-TR-NFW-2L or 122-NFW-SHL-(R) if work can safely be completed with a shoulder closure.

3. Stage 3.

A. Complete cold milling and resurfacing, pavement markings, and final restoration.

B. Maintain one lane of traffic in each direction in accordance with Maintaining Traffic Typical 110-TR-NFW-2L.

h. Earthwork and Excavation.

1. Restore undercuts or excavations in the work areas within 3 feet of the active traffic lanes to no steeper than a 1 on 4 slope from the edge of the roadway at the end of each work day. If this condition is not met, provide a nighttime closure.

2. Delineate excavated areas located within 3 feet of traffic with channelizing devices at 20 feet spacing along the excavated area, and 100 feet before the area, or as shown on the maintaining traffic plans.

i. Hot Mix Asphalt (HMA) Work.

1. Resurface all HMA milled areas within 48 hours of the HMA cold milling operation. All HMA milled areas must be resurfaced prior to end of day Friday unless Saturday work is approved by the Engineer.

2. Provide transverse and longitudinal HMA tapers at all grade changes greater than 1.5 inches caused by cold milling and overlay. Place W8-1 ("BUMP") signs in advance of transverse HMA tapers. Place W8-11 ("UNEVEN LANES") signs in advance of longitudinal HMA tapers. Place W8-9 ("LOW SHOULDER") signs in advance of and every mile within the shoulder drop off.

j. Traffic Control Devices. Ensure all traffic control devices are in accordance with the *MMUTCD* and must meet the "acceptable" criteria as defined in the *ATSSA* publication entitled "*Quality Guidelines for Temporary Traffic Control Devices and Features*" at the time of initial deployment and after each major stage change.

1. During non-working periods, place applicable advance signs and channelizing devices at specific locations, as directed by the Engineer, at no additional cost to the Department.

2. Notify the Engineer 24 hours in advance of when traffic control devices are being delivered to the project site, to allow for initial inspection of devices to take place.

3. Remove from the project site all traffic control devices (including detour signing) no longer needed for a particular operation and equipment for construction within 14 calendar days of reopening the shoulder/lane/roadway.

4. Channelizing Devices.

A. Ensure all devices have sufficient ballast to prevent moving or tipping. If moving or tipping occurs, place additional ballast, as directed by the Engineer, at no additional cost to the Department. No more than two ballasts are allowed on each channelizing device.

B. Do not use caution tape on this project.

5. Temporary Signs.

A. Additional W20-1 (ROAD WORK AHEAD) signs are included in the quantities to be placed on all intersecting or adjacent roads where construction activities may be encountered.

B. Fabricate, install, and remove temporary sign overlays on existing signs with the pay item for Sign, Type B, Temp, Prismatic, Furn. Attach the overlay in accordance with subsection 812.03.D.2 of the Standard Specifications for Construction.

k. Traffic Signals.

1. Coordinate the modification of existing traffic signals and installation of temporary or permanent signals with the Engineer.

2. Prior to each stage, all temporary and/or permanent traffic signal work necessary for traffic control during that stage must be complete and fully operational.

l. Temporary Pavement Markings.

1. Remove conflicting pavement markings, pavement markings in taper/transition areas and other markings as directed by the Engineer, for operations occupying a location longer than 3 days. Durable markings in these areas should be covered rather than be removed.

2. Quantities for temporary tape to be placed during paving operations are based on the MDOT PAVE 900 Series standard plans.

3. When Type R or NR tape is used, ensure that all temporary pavement markings adhere to the pavement surface until permanent markings are installed.

4. Replace all existing pavement markings that are removed for traffic control or obliterated during construction.

5. Delineate the edge line using channelizing devices spaced at 200 ft.

m. Measurement and Payment. Payment will be in accordance with the standard specifications unless otherwise specified. No additional payment will be made for the following activities:

1. Transporting traffic control items from site to site.

2. Providing sufficient vehicles and staff to make changes as-needed on site during work.

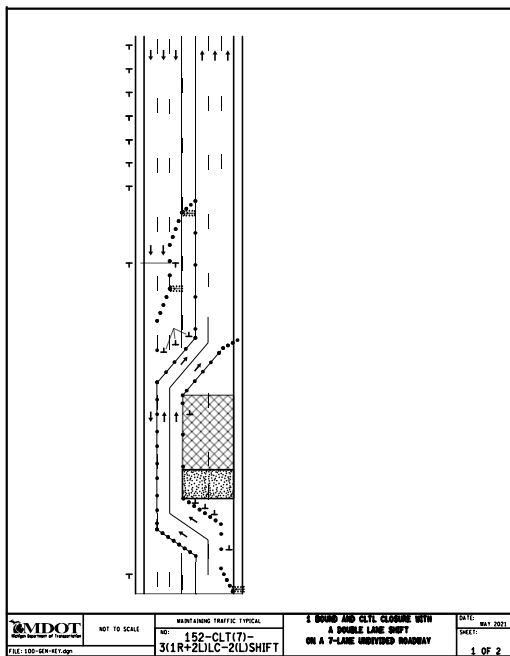
3. Providing sufficient vehicles and staff to remove closures from the roadway.

4. Providing additional traffic control devices required to expedite the construction for the convenience of the Contractor.

TYPICAL NUMBER KEY

CODES

AB = ARROW BOARD AW = ADVANCE WARNING C = CLOSURE CLT = CENTER LEFT TURN LANE CROSS = CROSSOVER CruSha = CRUSH AND SHAPE EM = EARLY MERGE EnR = ENTRANCE RAMP ExR = EXIT RAMP FW = FREEWAY GEN = GENERAL INFORMATION GORE = FREEWAY GORE AREA IN = INSIDE INT = INTERSECTION L = LANE (L) = LEFT LC = LANE CLOSURE LD = LONG DURATION	LO = LANE OPEN O = OUTSIDE (LANE CLOSURE) OUT = OUTSIDE OF SHOULDER MID = MIDDLE OF INTERSECTION OR ROAD NFW = NON-FREEWAY PARK = PARKING LANE PCMS = PORTABLE CHANGEABLE MESSAGE SIGN (R) = RIGHT ROLL = ROLLING ROADBLOCK RUM = RUMBLE STRIP SD = SHORT DURATION SHL = SHOULDER CLOSURE SIGN = SIGN SP = SPECIAL SPEED = SPEED STA = STOPPED TRAFFIC ADVISORY TR = TRAFFIC REGULATOR TS = TEMPORARY SIGNAL ZIP = ZIPPER MERGE
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



- 100 - GENERAL NOTES
- 110 - TRAFFIC REGULATORS
- 120 - NON-FREEWAY
- 130 - CENTER LEFT TURN (CLT) LANES
- 140 - PARKING LANES
- 150 - CLT 7 LANE SECTIONS
- 160 - SIGNAL WORK
- 200 - FREEWAY CLOSURES
- 210 - FREEWAY LANE SHIFTS
- 220 - FREEWAY ENTRANCE RAMPS
- 230 - FREEWAY EXIT RAMPS
- 300 - ADVANCE WARNINGS
- 310 - CROSSOVER CLOSURE
- 320 - CRUSH AND SHAPE
- 340 - MERGE SYSTEMS
- 350 - GORE LOCATIONS
- 360 - ROLLING ROADBLOCK
- 4000 - MAINTENANCE
- 5000 - SURVEY

EXAMPLE TYPICAL

CODE: 152-CTL(7)-3(1R+2L)LC-2(L)SHIFT

152 - TYPICAL NUMBER

CTL(7) = CENTER LEFT TURN LANE, 7 LANES TOTAL.

3(1R+2L)LC = 3 LANES CLOSED, (1 RIGHT LANE AND 2 LEFT LANES).

2(L)SHIFT = 2 LANES SHIFTED TO THE LEFT.

NOT TO SCALE

	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TYPICAL NUMBERING KEY	DATE: DECEMBER 2021
		NO: 100-GEN-KEY		SHEET: 1 OF 1

FILE: 100-GEN-KEY.dgn

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
D (FEET)	250	300	350	400	450	500	550	600	650	700	750

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

"B" LENGTHS	SPEED*, MPH (PRIOR TO WORK AREA)											
	20	25	30	35	40	45	50	55	60	65	70	75
B (FEET)	33	50	83	132	181	230	279	329	411	476	542	625

* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

OFFSET (FEET)	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
1	11	15	21	27	45	50	55	60	65	70	75
2	21	30	41	54	90	100	110	120	130	140	150
3	32	45	62	80	135	150	165	180	195	210	225
4	42	60	82	107	180	200	220	240	260	280	300
5	53	75	103	134	225	250	275	300	325	350	375
6	63	90	123	160	270	300	330	360	390	420	450
7	73	105	143	187	315	350	385	420	455	490	525
8	84	120	164	214	360	400	440	480	520	560	600
9	94	135	184	240	405	450	495	540	585	630	675
10	105	150	205	267	450	500	550	600	650	700	750
11	115	165	225	294	495	550	605	660	715	770	825
12	125	180	245	320	540	600	660	720	780	840	900
13	136	195	266	347	585	650	715	780	845	910	975
14	146	210	286	374	630	700	770	840	910	980	1050
15	157	225	307	400	675	750	825	900	975	1050	1125

NOT TO SCALE

	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	"B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING, SIGN BORDER KEY, AND ROLL-AHEAD SPACING	DATE: MAY 2021
		NO: 101-GEN-SPACING-CHARTS		SHEET: 1 OF 3

FILE: 101-GEN-SPACING-CHARTS.dgn

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = W X S WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
 S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
 W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS

- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- 2 TO 1 LANE ROAD TAPER

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM

DOWNSTREAM TAPERS
 (USE IS RECOMMENDED)

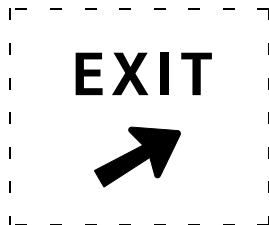
100' (PER LANE)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

WORK ZONE SPEED LIMIT	DRUM AND 42" DEVICE SPACING (FT)		NIGHTTIME 42" DEVICE SPACING (FT)	
	TAPER	TANGENT	TAPER	TANGENT
< 45 MPH	1 x SPEED LIMIT	2 x SPEED LIMIT	25 FEET	50 FEET
≥ 45 MPH	50 FEET	100 FEET	25 FEET	50 FEET

SIGN OUTLINE KEY

DASHED OUTLINES INDICATE A SIGN THAT EXISTS ON SITE, AND NEEDS TO BE COVERED.



SOLID OUTLINES INDICATE A SIGN THAT IS TO BE PLACED ON THE PROJECT



NOT TO SCALE

	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	"B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING SIGN BORDER KEY AND ROLL-AHEAD SPACING	DATE: MAY 2021
		NO: 101-GEN-SPACING-CHARTS		SHEET: 2 OF 3

FILE: 101-GEN-SPACING-CHARTS.dgn

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES – TEST LEVEL 2

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5.5 TONS (STATIONARY)	40 MPH OR LESS	25 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 4,410 POUND IMPACT VEHICLE WEIGHT.

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES – TEST LEVEL 3

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5 TONS (MOBILE)	45 MPH	100 FT
	50-55 MPH	150 FT
	60-75 MPH	175 FT
12 TONS (STATIONARY)	45 MPH	25 FT
	50-55 MPH	25 FT
	60-75 MPH	50 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 10,000 POUND IMPACT VEHICLE WEIGHT.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 101-GEN-SPACING-CHARTS

"B", "D" AND "L" TABLES
CHANNELIZING DEVICE SPACING
SIGN BORDER KEY AND ROLL AHEAD SPACING

DATE: MAY 2021

SHEET: 3 OF 3

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

- G1: SEE GEN-SPACING-CHARTS FOR COMMON VALUES INCLUDING:
 D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 ROLL AHEAD DISTANCE
- G2: DISTANCE BETWEEN SIGNS, "D", THE VALUES FOR WHICH ARE SHOWN IN TYPICAL GEN-KEY ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- G3: ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP 350) TEST LEVEL 3, OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TL-3 AS WELL AS THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
- G4: DO NOT STORE EQUIPMENT, MATERIALS OR PERFORM WORK IN ESTABLISHED BUFFER AREAS.
- G5: ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR TRAFFIC PATTERNS FOR WORK LESS THAN THREE DAYS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

SIGN NOTES

- S1: ALL NON-APPLICABLE SIGNING WITHIN THE CIA MUST BE MODIFIED TO FIT CONDITIONS, COVERED, OR REMOVED. FOR GUIDANCE SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, SECTIONS 6.01.09 AND 6.01.10.
- S2: R5-18b SIGNS ARE ONLY REQUIRED ON FREEWAY PROJECTS WITH A DURATION OF 15 DAYS OR LONGER OR NON-FREEWAY PROJECTS WITH A DURATION OF 90 DAYS OR LONGER. TO APPLY THIS TYPICAL WITHOUT R5-18b SIGNS, REMOVE THE SIGNS AND CONSOLIDATE THE SEQUENCE AS APPROPRIATE.
- S3: R5-18c IS ONLY REQUIRED IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. OMIT THIS SIGN IN SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE.
- S4: ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W20-5 SIGNS.
- S5: PLACE ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE WORK ZONE SPEED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK ZONE, OR AFTER EACH ENTRANCE RAMP THAT COMES ONTO THE FREEWAY WHERE THE REDUCED SPEED IS IN EFFECT. PLACE ADDITIONAL SPEED LIMIT SIGNS AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS ARE MORE THAN 2 MILES APART. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, PLACE ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED BEYOND THE LIMITS OF THE WORK AREA AS INDICATED. IF PERMANENT SIGNS DISPLAYING THE CORRECT SPEED LIMIT ARE POSTED, OMIT ALL W3-5b AND R2-1 SIGNS AND REDUCE SPACING ACCORDINGLY.
- S6: FABRICATE SPECIAL SIGNS IN ACCORDANCE WITH CURRENT SIGNING DESIGN STANDARDS.
- S7: PLACE ADDITIONAL R8-3 SIGNS AT A MAXIMUM 500' SPACING THROUGHOUT THE WORK ZONE.
- S8: WHEN SPEED LIMIT SIGNS CANNOT BE PLACED SIDE BY SIDE AS SHOWN, PLACE THEM "D" DISTANCE APART.
- S9: STOP SIGNS NOT REQUIRED IF SIGNALS ARE ON 4-WAY FLASHING RED. STOP AHEAD SIGNS ARE NOT REQUIRED IF THERE IS ADEQUATE VISIBILITY OF THE STOP SIGN OR IF SIGNALS ARE BEING USED TO CONTROL TRAFFIC.
- S10: PLACE REDUCED SPEED ZONE AHEAD SIGN (W3-5b) HERE WHEN USING A SPEED REDUCTION IN THIS DIRECTION.
- S11: THE NUMBER OF W1-6 SHIFT SIGNS TO PLACE FOR A SHIFT IS AS FOLLOWS:
 SHIFTS 4FT OR LESS, PLACE ONE W1-6(R)(L)
 SHIFTS 5FT TO 12FT, PLACE TWO W1-6(R)(L)
 SHIFTS MORE THAN 12FT, PLACE THREE OR MORE W1-6(R)(L) SIGNS DEPENDING UPON LENGTH OF SHIFT AND AS PER THE ENGINEER.
- S12: PLACE R2-1 SIGNS AS DETAILED IN NOTE S5 WHEN THERE IS A SPEED REDUCTION IN THIS DIRECTION

TRAFFIC REGULATOR NOTES

- TR1: TRAFFIC REGULATORS MUST FOLLOW ALL THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS, THE CURRENT VERSIONS OF THE TRAFFIC REGULATOR'S INSTRUCTION MANUAL AND THE VIDEO "HOW TO SAFELY REGULATE TRAFFIC IN MICHIGAN". THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS IS DETERMINED BY THE ROADWAY ADT, GEOMETRICS, AND AS DIRECTED BY THE ENGINEER.
- TR2: PROVIDE APPROPRIATE BALLOON LIGHTING TO SUFFICIENTLY ILLUMINATE TRAFFIC REGULATOR'S STATIONS WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS.
- TR3: PROVIDE EITHER A STOP/SLOW AFAD OR A RED/YELLOW LENS AFAD, MEETING THE REQUIREMENTS OF THE MMUTCD

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

- TCD1: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD NOT EXCEED 1.0 TIMES THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 50 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TAPERS ARE NOT TO EXCEED 25 FEET AT NIGHT.
- TCD2: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TANGENT SHOULD NOT EXCEED TWICE THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 100 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TANGENTS ARE NOT TO EXCEED 50 FEET AT NIGHT.
- TCD3: TYPE III BARRICADES MUST BE LIGHTED FOR OVERNIGHT CLOSURES.
- TCD4: WHEN THE HAUL ROAD IS NOT IN USE, PLACE LIGHTED TYPE III BARRICADES WITH "ROAD CLOSED" EXTENDING COMPLETELY ACROSS THE HAUL ROAD.
- TCD5: USE OBJECT MARKER SIGNS IN LIEU OF THE TYPE B HIGH INTENSITY LIGHT SHOWN IN THE STANDARD PLAN FOR TEMPORARY CONCRETE BARRIER (R-53, AND R-126) WHEN USED WITH A TEMPORARY SIGNAL SYSTEM. THE OBJECT MARKERS MUST BE A MINIMUM OF 12 INCHES IN WIDTH AND 36 INCHES IN HEIGHT AND HAVE ORANGE AND WHITE RETROREFLECTIVE SHEETING. THE RETROREFLECTIVE SHEETING MUST HAVE ALTERNATING DIAGONAL ORANGE AND WHITE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION VEHICULAR TRAFFIC IS TO PASS.
- TCD6: PLACE LIGHTED ARROW PANELS AS CLOSE TO THE BEGINNING OF TAPERS AS PRACTICAL, BUT NOT IN A MANNER THAT WILL OBSCURE OR CONFUSE APPROACHING MOTORISTS WHEN PHYSICAL LIMITATIONS RESTRICT PLACEMENT. IN CURBED SECTIONS, IF ARROW BOARD CANNOT BE PLACED BEHIND CURB, PLACE ARROW BOARD IN THE CLOSED LANE AS CLOSE TO THE BEGINNING OF TAPER AS POSSIBLE.
- TCD7: ADDITIONAL TYPE III BARRICADES MAY BE REQUIRED TO COMPLETELY CLOSE OFF ROAD FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
- TCD8: WHERE THE SHIFTED SECTION IS SHORTER THAN 600 FEET, A DOUBLE REVERSE CURVE SIGN (W24-1) CAN BE USED INSTEAD OF THE FIRST REVERSE CURVE SIGN, AND THE SECOND REVERSE CURVE SIGN CAN BE OMITTED.
- TCD9: RUMBLE STRIPS ARE TO BE PLACED AS SPECIFIED IN THE CONTRACT. IF NOT SPECIFIED IN THE CONTRACT, PLACE RUMBLE STRIPS AS SHOWN, AND IN ACCORDANCE WITH THE RUMBLE STRIP MANUFACTURER'S RECOMMENDATIONS. AN ARRAY OF RUMBLE STRIPS CONTAINS THREE RUMBLE STRIPS. PLACE THE RUMBLE STRIPS IN THE ARRAY AT A CONSISTENT DISTANCE, BETWEEN 10' AND 20' APART.
- TCD10: SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, PORTABLE CHANGEABLE MESSAGE SIGN GUIDELINES FOR RECOMMENDED AND CORRECT PCMS MESSAGING. STAGGER PCMS THAT ARE ON OPPOSING SIDES OF THE ROAD 1000 FEET FROM EACH OTHER.

RAMP NOTES

- RMP1: WHEN CONDITIONS ALLOW, E5-1 SIGNS MUST BE REMOVED OR COVERED AND CHANNELIZING DEVICES MUST BE POSITIONED TO ENABLE RAMP TRAFFIC TO DIVERGE IN A FREE MANNER
- RMP2: STOP AND YIELD CONDITIONS SHOULD BE AVOIDED WHENEVER PRACTICAL. WHEN CONDITIONS WARRANT, R1-1 SIGNS MAY BE USED IN PLACE OF R1-2 SIGNS. WHEN R-1 SIGNS ARE USED, W3-1 SIGNS MUST BE USED IN PLACE OF W3-2 SIGNS. CONSIDERATION SHOULD BE GIVEN TO CLOSING THE RAMP TO COMPLETE WORK TO ALLOW AN ADEQUATE MERGE DISTANCE. WORK SHOULD BE EXPEDITED TO AVOID THE STOP AND/OR YIELD CONDITIONS.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 102-GEN-NOTES

**TRAFFIC TYPICALS
NOTE SHEET**

DATE: MAY 2022
SHEET:

1 OF 2

FILE: 102-GEN-NOTES.dgn

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

- SIG1: EXISTING SIGNAL MUST BE EITHER 4-WAY FLASHING RED, BAGGED, OR TURNED OFF.
- SIG2: SIGNAL IS IN OPERATION.
- SIG3: DELINEATE THE WORK ZONE AREA WITH 28 INCH CONES FOR DAYTIME WORK, OR 42 INCH CHANNELIZING DEVICES FOR NIGHTTIME WORK.
- SIG4: THE CONTRACTOR MUST HAVE A DESIGNATED SPOTTER IF THE AERIAL BUCKET TRUCK IS LOCATED OVER ACTIVE TRAVEL LANES.
- SIG5: THE LOWEST POINT OF THE BUCKET MAY NOT TRAVEL BELOW 14 FOOT VERTICAL CLEARANCE. THE CONTRACTOR MUST UTILIZE AN ALTERNATE SET UP, OR PLACE THE INTERSECTION IN A 4 WAY STOP IF THE 14 FOOT VERTICAL CLEARANCE IS COMPROMIZED. USE TRAFFIC REGULATORS TO CONTROL TRAFFIC THROUGH THE INTERSECTION WHEN TRAFFIC IS PLACED IN A 4 WAY STOP.
- SIG6: DELINEATE THE TRUCK WITH CHANNELIZING DEVICES. THE POSITION OF THE TRUCK MAY BE MOVED TO FACILITATE WORK.

MAINTENANCE AND SURVEYING NOTES

- MS1: WHENEVER STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLES SHOULD MAINTAIN THE RECOMENDED DISTANCE FROM THE WORK AREA AND PROCEED AT THE SAME SPEED. THE SHADOW VEHICLE SHOULD SLOW DOWN AND TRAVEL AT A FARTHER DISTANCE TO PROVIDE ADEQUATE SIGHT DISTANCE IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES.
- MS2: WORKERS OUTSIDE OF VEHICLES SHOULD WORK WITHIN 150' OF WORK VEHICLES WITH AN ACTIVATED BEACON, BETWEEN THE "BEGIN WORK CONVOY" SIGN AND THE "END WORK CONVOY" SIGN, OR BETWEEN THE "WORK ZONE BEGINS" AND "END ROAD WORK" SIGN.
- MS3: WORK OR SHADOW VEHICLES WITH OR WITHOUT A TMA MAY BE USED TO SEPARATE THE WORK SPACE FROM TRAFFIC. IF USED, THE VEHICLES SHOULD BE PARKED ACCORDING TO THE ROLL AHEAD DISTANCE TABLES.
- MS4: WORK AND SHADOW VEHICLES SHALL BE APPROPRIATELY EQUIPPED WITH AN ACTIVATED AMBER BEACON.
- MS5: WHEN WORKERS ARE OUTSIDE THEIR VEHICLES IN AN EXISTING LANE WHILE A MOBILE OPERATION IS OCCURRING DURING THE NIGHTTIME HOURS, CHANNELIZING DEVICES TO DELINEATE OPEN OR CLOSED LANES AT 50 FT SPACING MUST BE USED. AN EXAMPLE OF AN OPERATION (BUT NOT LIMITED TO) IS THE LAYOUT OF CONCRETE PATCHES.
- MS6: W21-6 AND W20-1 SIGNS MAY BE SUBSTITUTED AS DETERMINED BY THE TYPE OF WORK TAKING PLACE AS PER THE ENGINEER.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE: MAY 2022
SHEET:

2 OF 2

FILE: 102-GEN-NOTES.dgn

SIGN NUMBER KEY

 E5-1f 48" x 48" 60" x 48"	 E5-2 48" x 36"	 E5-2a 48" x 36"	 E5-3 48" x 36"	 E13-1P VAR x 24"	 E13-1aP 36" x 24"	 G20-1 60" x 24"	 G20-2 48" x 24"
 G20-4 36" x 18"	 I-6a 18" x 18" 24" x 24" 30" x 30"	 M1-1 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 M1-1 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 M1-2 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 M1-2 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 M1-3 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 M1-3 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"
 M1-4 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 M1-4 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 M1-5 18" x 18" 24" x 24" 30" x 30" 36" x 36"	 M1-5a 18" x 18" 24" x 24"	 M1-6 18" x 18" 24" x 24" 36" x 36"	 M1-6 22.5" x 18" 30" x 24" 45" x 36"	 M3-1 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M3-2 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 M3-3 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M3-4 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-1 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-1a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-2 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-3 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-4 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-5 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 M4-6 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-7 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-7a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-8 12" x 6" 18" x 9" 24" x 12" 30" x 15"	 M4-8a 24" x 18"	 M4-8b 24" x 12"	 M4-9L 30" x 24" 48" x 36" 60" x 48"	 M4-9R 30" x 24" 48" x 36" 60" x 48"
 M4-9j 30" x 24" 48" x 36" 60" x 48"	 M4-9kL 30" x 30" 48" x 42" 60" x 54"	 M4-9kR 30" x 30" 48" x 42" 60" x 54"	 M4-9mL 30" x 30" 48" x 42" 60" x 54"	 M4-9mR 30" x 30" 48" x 42" 60" x 54"	 M4-9dL 12" x 18"	 M4-9dR 12" x 18"	 M4-9e 12" x 18"
 M4-9f 12" x 18"	 M4-9gL 12" x 18"	 M4-9gR 12" x 18"	 M4-9h 12" x 24"	 M4-9i 12" x 18"	 M4-10L 48" x 18"	 M4-10R 48" x 18"	 M4-11a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 M5-1L 12" x 9" 21" x 15" 30" x 21"	 M5-1R 12" x 9" 21" x 15" 30" x 21"	 M5-2L 12" x 9" 21" x 15" 30" x 21"	 M5-2R 12" x 9" 21" x 15" 30" x 21"	 M5-3 12" x 9" 21" x 15" 30" x 21"	 M6-1L 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-1R 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-2L 12" x 9" 18" x 12" 21" x 15" 30" x 21"
 M6-2R 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-3 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-4 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-5 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-6L 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-6R 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-7L 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 M6-7R 12" x 9" 18" x 12" 21" x 15" 30" x 21"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 103-GEN-SIGN

TRAFFIC TYPICALS
SIGN SHEET

DATE:
JUNE 2021

SHEET:
1 OF 5

FILE: 103-GEN-SIGN.dgn

SIGN NUMBER KEY

 NORTH 10 KEEP LEFT M8-1gL 36" x 66"	 SOUTH 27 KEEP RIGHT M8-1gR 36" x 66"	 NORTH SOUTH 10 27 M8-2d 60" x 48"	 OM-3L 12" x 36" 24" x 48" 36" x 72"	 OM-3R 12" x 36" 24" x 48" 36" x 72"	 STOP R1-1 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 FRONT BACK STOP SLOW R1-1a 18" x 18" 24" x 24"	 YIELD R1-2 18" 24" 30" 36" 48" 60"	
 TO ONCOMING TRAFFIC R1-2aP 24" x 18" 36" x 30" 48" x 36"	 SPEED LIMIT XX R2-1 18" x 24" 24" x 30" 30" x 36" 36" x 48" 48" x 60"	 WHERE WORKERS PRESENT 45 R2-1a 48" x 60"	 R3-1 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 R3-2 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 NO TURNS R3-3 24" x 24" 36" x 36" 48" x 48"	 R3-4 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 ONLY R3-5L 30" x 36" 36" x 48"	
 ONLY R3-5R 30" x 36" 36" x 48"	 ONLY R3-5a 30" x 36" 36" x 48"	 R3-6L 30" x 36" 42" x 48"	 R3-6R 30" x 36" 42" x 48"	 LEFT LANE MUST TURN LEFT R3-7L 30" x 30" 36" x 36"	 RIGHT LANE MUST TURN RIGHT R3-7R 30" x 30" 36" x 36"	 ONLY ONLY R3-8c 36" x 30"	 ONLY ONLY R3-8d 36" x 30"	
 DO NOT PASS R4-1 12" x 18" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 PASS WITH CARE R4-2 12" x 18" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 R4-7 12" x 18" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 R4-8 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 STAY IN LANE R4-9 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 DO NOT ENTER R5-1 30" x 30" 36" x 36" 48" x 48"	 WRONG WAY R5-1a 30" x 18" 36" x 24" 42" x 30"	 INJURE / KILL A WORKER \$7500+ 15 YEARS R5-18b 48" x 60"	
 WORK ZONE BEGINS R5-18c 48" x 48"	 BEGIN WORK CONVOY R5-18d 78" x 12"	 END WORK CONVOY R5-18e 72" x 12"	 USE ALL LANES DURING BACKUPS R5-18f 48" x 60"	 FORM ONE LANE RIGHT R5-18g 30" x 42"	 DO NOT FOLLOW TRUCKS INTO WORK ZONE R5-18h 48" x 60"	 ONE WAY R6-1L 36" x 12" 54" x 18"	 ONE WAY R6-2L 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 ONE WAY R6-2R 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"
 ONE WAY R6-1R 36" x 12" 54" x 18"	 ONE WAY R6-2L 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 ONE WAY R6-2R 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	 R8-3 12" x 12" 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 PEDESTRIAN CROSSWALK R9-8 36" x 18"	 SIDEWALK CLOSED R9-9 24" x 12" 30" x 18"	 SIDEWALK CLOSED USE OTHER SIDE R9-10 24" x 12" 48" x 24"	 SIDEWALK CLOSED AHEAD CROSS HERE R9-11L 24" x 12" 48" x 36"	
 SIDEWALK CLOSED AHEAD CROSS HERE R9-11R 24" x 12" 48" x 36"	 SIDEWALK CLOSED USE OTHER SIDE R9-11aL 24" x 12" 48" x 24"	 SIDEWALK CLOSED USE OTHER SIDE R9-11aR 24" x 12" 48" x 24"	 STOP HERE ON RED R10-6b 36" x 54"	 ROAD CLOSED R11-2 48" x 30"	 RAMP CLOSED R11-2a 48" x 30"	 EXIT CLOSED R11-2b 48" x 30"	 CROSSOVER CLOSED R11-2c 60" x 30"	
 ROAD CLOSED 10 MILES AHEAD LOCAL TRAFFIC ONLY R11-3a 60" x 30"	 BRIDGE OUT 10 MILES AHEAD LOCAL TRAFFIC ONLY R11-3b 60" x 30"	 ROAD CLOSED TO THRU TRAFFIC R11-4 60" x 30"						

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICALS
SIGN SHEET

DATE:
JUNE 2021
SHEET:

2 OF 5

SIGN NUMBER KEY



W1-1L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-1R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2bL
36" x 36"
48" x 48"



W1-2bR
36" x 36"
48" x 48"



W1-3L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-3R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4bL
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4bR
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4cL
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4cR
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W24-1L
30" x 30"
36" x 36"
48" x 48"

ALL LANES

W24-1cP
24" x 18"
30" x 24"



W24-1R
30" x 30"
36" x 36"
48" x 48"



W24-1aL
30" x 30"
36" x 36"
48" x 48"



W24-1aR
30" x 30"
36" x 36"
48" x 48"



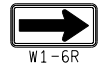
W24-1bL
30" x 30"
36" x 36"
48" x 48"



W24-1bR
30" x 30"
36" x 36"
48" x 48"



W1-6L
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"



W1-6R
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"



W1-8L
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"



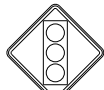
W1-8R
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"



W3-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W3-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W3-3
18" x 18"
30" x 30"
36" x 36"
48" x 48"



W3-4
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W3-4b
30" x 30"
36" x 36"
48" x 48"



W3-5
36" x 36"
48" x 48"



W3-5a
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W3-5b
30" x 30"
36" x 36"
48" x 48"



W4-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-2L
30" x 30"
36" x 36"
48" x 48"



W4-2R
30" x 30"
36" x 36"
48" x 48"



W4-3L
30" x 30"
36" x 36"
48" x 48"



W4-3R
30" x 30"
36" x 36"
48" x 48"



W4-5L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-5R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-5P
18" x 24"
24" x 30"



W4-6L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-6R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-7L
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W4-7R
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W5-1
30" x 30"
36" x 36"
48" x 48"



W5-2
18" x 18"
30" x 30"
36" x 36"
48" x 48"



W5-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W5-4
30" x 30"
36" x 36"
48" x 48"



W6-1
30" x 30"
36" x 36"
48" x 48"



W6-2
30" x 30"
36" x 36"
48" x 48"



W6-3
30" x 30"
36" x 36"
48" x 48"



W6-4
12" x 18"



W7-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W7-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET
















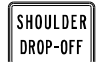





















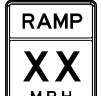



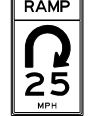
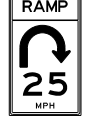













DATE:
JUNE 2021

SHEET:

3 OF 5

FILE: 103-GEN-SIGN.dgn

SIGN NUMBER KEY

 W8-2 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-3 18" x 18" 30" x 30" 36" x 36" 48" x 48"	 W8-4 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-5 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-5P 24" x 18" 30" x 24" 36" x 30"	 W8-7 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-8 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-9 24" x 24" 30" x 30" 36" x 36" 48" x 48"
 W8-11 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-12 30" x 30" 36" x 36" 48" x 48"	 W8-14 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-15 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-15P 24" x 18" 30" x 24" 36" x 30"	 W8-17L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-17R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-17P 24" x 18" 30" x 24" 36" x 30"
 W8-18 24" x 24" 36" x 36" 48" x 48"	 W8-23 24" x 24" 36" x 36" 48" x 48"	 W8-24 30" x 30" 36" x 36" 48" x 48"	 W8-25 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W8-26 36" x 36" 48" x 48"	 W9-1L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W9-1R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W9-2L 30" x 30" 36" x 36" 48" x 48"
 W9-2R 30" x 30" 36" x 36" 48" x 48"	 W9-3C 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W9-3L 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W9-3R 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W9-3a 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W9-3b 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W11-10 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W11-10a 24" x 24" 30" x 30" 36" x 36" 48" x 48"
 W11-24 36" x 36" 48" x 48"	 W12-1 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W12-2 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W13-1P 18" x 18" 24" x 24" 30" x 30"	 W13-2 24" x 30" 36" x 48" 48" x 60"	 W13-3 24" x 30" 36" x 48" 48" x 60"	 W13-4P 24" x 24" 36" x 36"	 W13-6 24" x 42" 36" x 60" 48" x 84"
 W13-6a 24" x 42" 36" x 60" 48" x 84"	 W13-7 24" x 42" 36" x 60" 48" x 84"	 W13-7a 24" x 42" 36" x 60" 48" x 84"	 W14-3 36" x 24" 40" x 30" 48" x 36" 64" x 48"	 W16-2P 18" x 12" 24" x 18" 30" x 24"	 W16-4aP 18" x 12" 24" x 18" 30" x 24" 36" x 30"	 W16-12P 24" x 18"	 W16-13P 24" x 18" 30" x 24"
 W20-1 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W20-1a 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W20-1b 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W20-1c 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W20-1d 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W20-2 30" x 30" 36" x 36" 48" x 48"	 W20-3 30" x 30" 36" x 36" 48" x 48"	 W20-3a 30" x 30" 36" x 36" 48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICALS
SIGN SHEET

DATE:
JUNE 2021
SHEET:

4 OF 5

FILE: 103-GEN-SIGN.dgn

SIGN NUMBER KEY



W20-3b
30" x 30"
36" x 36"
48" x 48"



W20-4
30" x 30"
36" x 36"
48" x 48"



W20-4c
36" x 36"
48" x 48"



W20-5C
30" x 30"
36" x 36"
48" x 48"



W20-5L
30" x 30"
36" x 36"
48" x 48"



W20-5L1
30" x 30"
36" x 36"
48" x 48"



W20-5L2
30" x 30"
36" x 36"
48" x 48"



W20-5R
30" x 30"
36" x 36"
48" x 48"



W20-5R1
30" x 30"
36" x 36"
48" x 48"



W20-5R2
30" x 30"
36" x 36"
48" x 48"



W20-5aL2
30" x 30"
36" x 36"
48" x 48"



W20-5aL3
30" x 30"
36" x 36"
48" x 48"



W20-5aR2
30" x 30"
36" x 36"
48" x 48"



W20-5aR3
30" x 30"
36" x 36"
48" x 48"



W20-7a
30" x 30"
36" x 36"
48" x 48"



W20-8
24" x 18"



W20-9
54" x 48"



W20-10
48" x 24"
66" x 30"



W20-11
12" x 18"



W20-12P
VARIABLE x 12"



W20-13P
VARIABLE x 12"



W20-14L
36" x 36"
48" x 48"



W20-14R
36" x 36"
48" x 48"



W20-14dP
36" x 12"
48" x 12"



W20-14bP
36" x 12"
48" x 12"



W20-15
36" x 36"
48" x 48"



W20-15a
36" x 36"
48" x 48"



W20-15c
48" x 54"



W20-15d
48" x 54"



W20-16
36" x 36"
48" x 48"



W20-17
36" x 36"
48" x 48"



W21-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-4
36" x 18"



W21-5
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-5aL
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5aR
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5bL
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5bR
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-6
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-7
30" x 30"
36" x 36"
48" x 48"



W21-8
30" x 30"
36" x 36"
48" x 48"



W22-1
30" x 30"
36" x 36"
48" x 48"



W22-2
42" x 36"



W22-3
36" x 30"
42" x 36"



W23-1
48" x 24"



W23-2
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

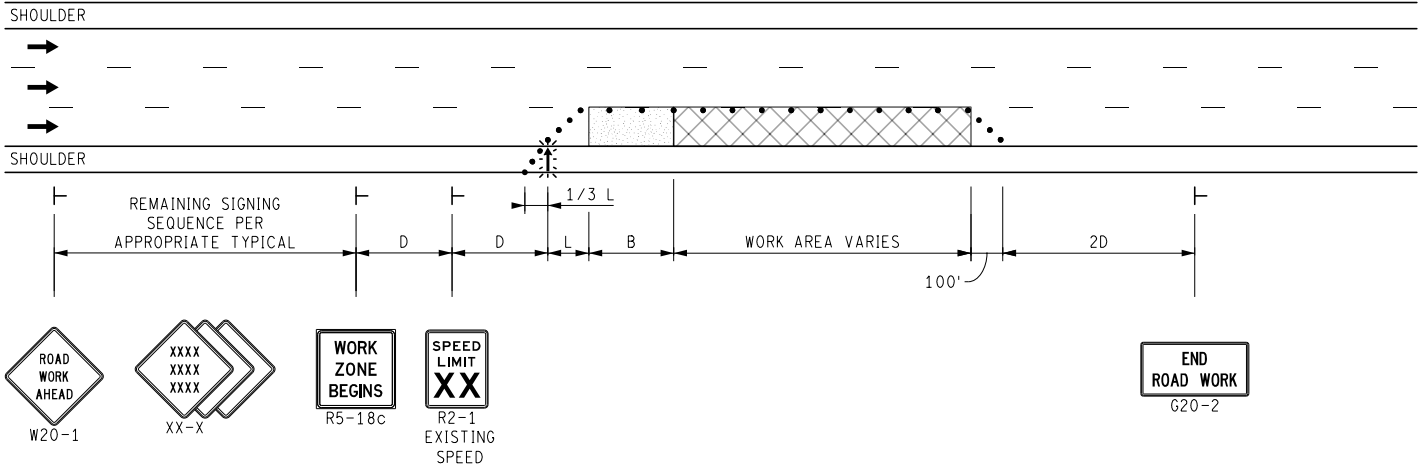
DATE:
JUNE 2021

SHEET:

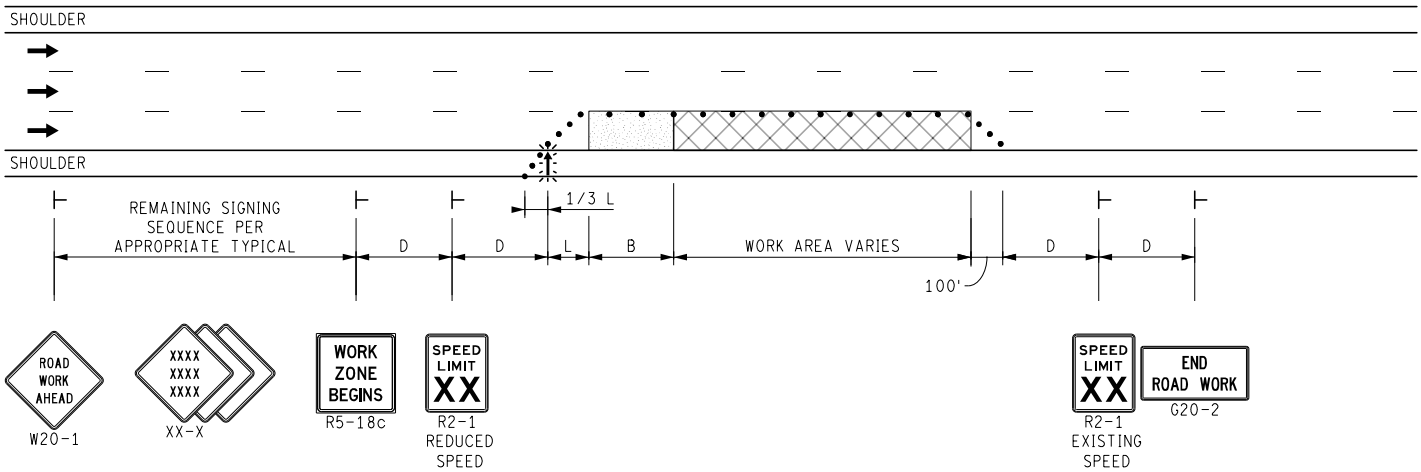
5 OF 5

FILE: 103-GEN-SIGN.dgn

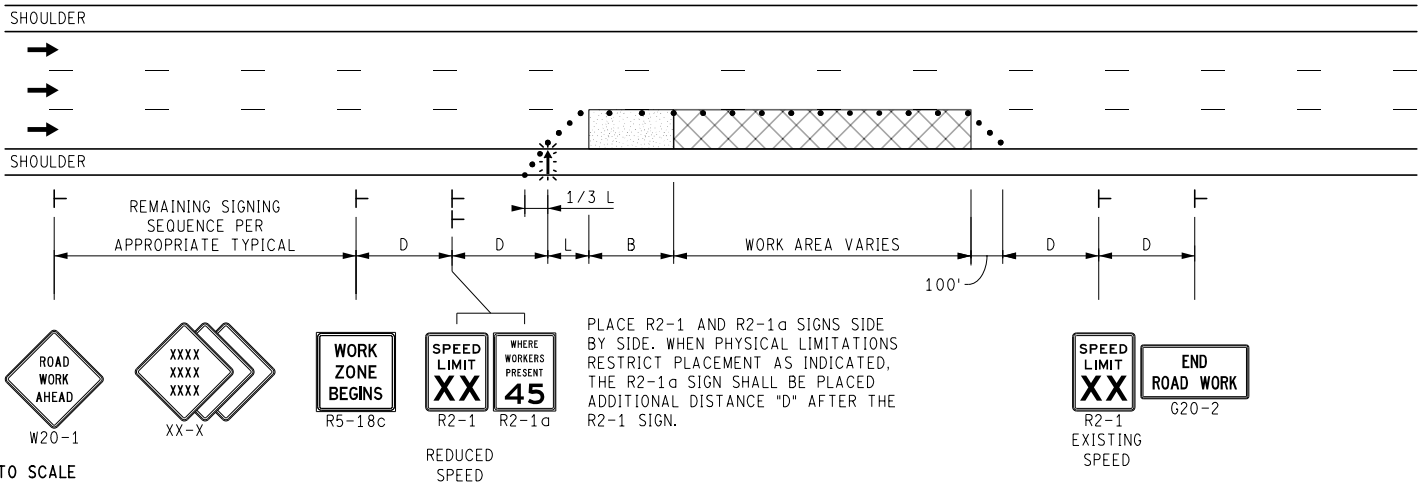
NO SPEED REDUCTION THROUGH WORK ZONE



REDUCED SPEED THROUGH WORK ZONE



REDUCED SPEED THROUGH WORK ZONE USING "WHERE WORKERS PRESENT"



NOT TO SCALE

MDOT
Michigan Department of Transportation

FILE: 107-GEN-SPEED.dgn

NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL








NO: 107-GEN-SPEED

SPEED LIMIT LAYOUT

DATE: MAY 2021

SHEET: 1 OF 2

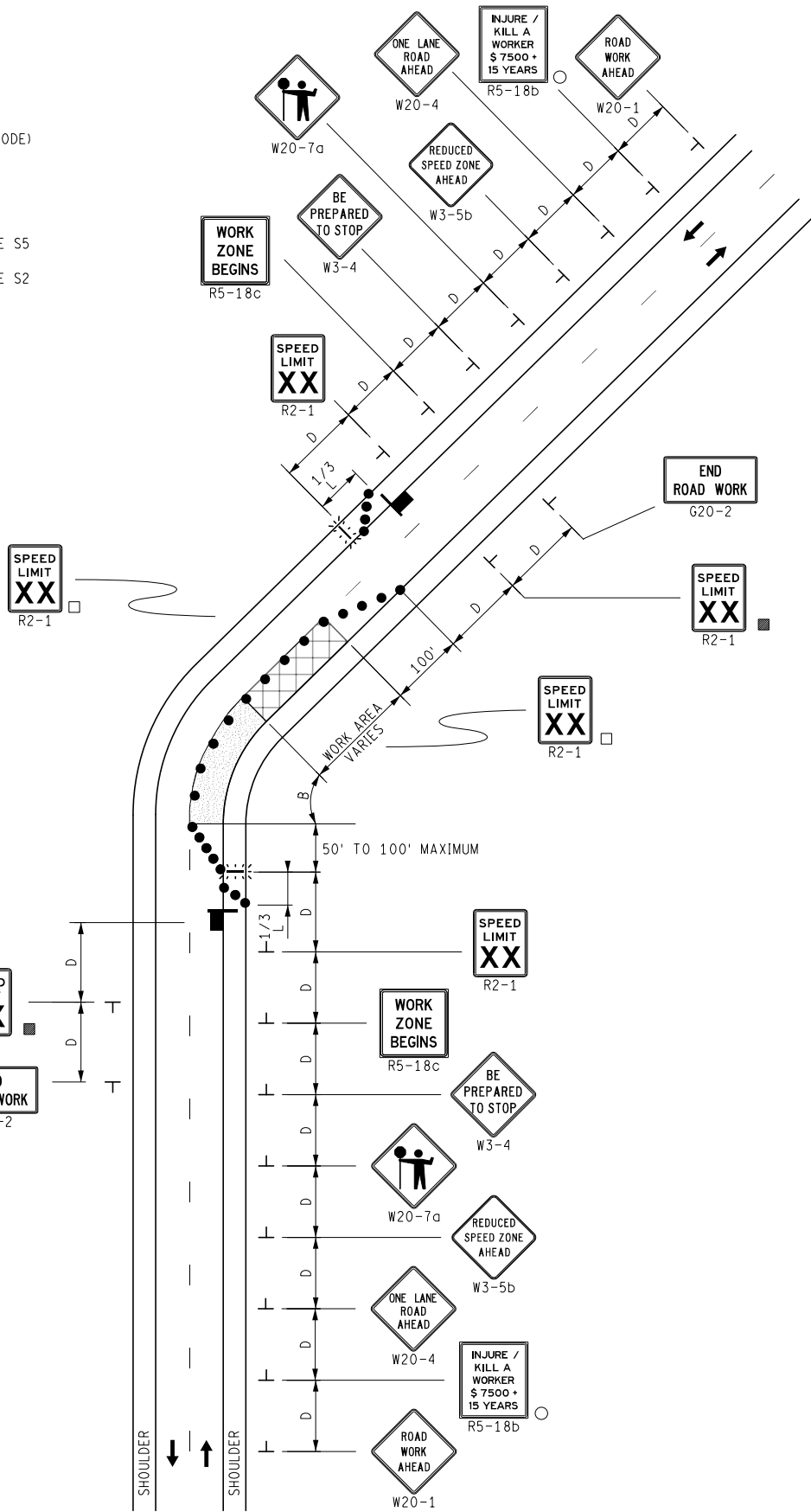
KEY

-  TRAFFIC REGULATOR
-  CHANNELIZING DEVICES
-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
-  REFLECTS EXISTING SPEED LIMIT
-  PLACE SIGN AS INDICATED IN NOTE S5
-  PLACE SIGN AS INDICATED IN NOTE S2

STANDARD NOTES

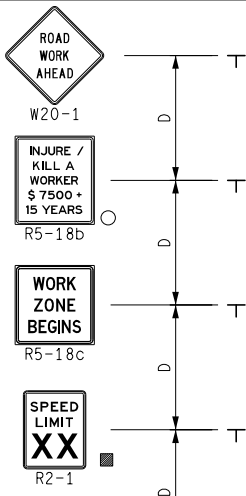
(SEE GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1, S2, S3, S4, S5
 TRAF REG: TR1, TR2
 DEVICES: TCD1, TCD2, TCD6



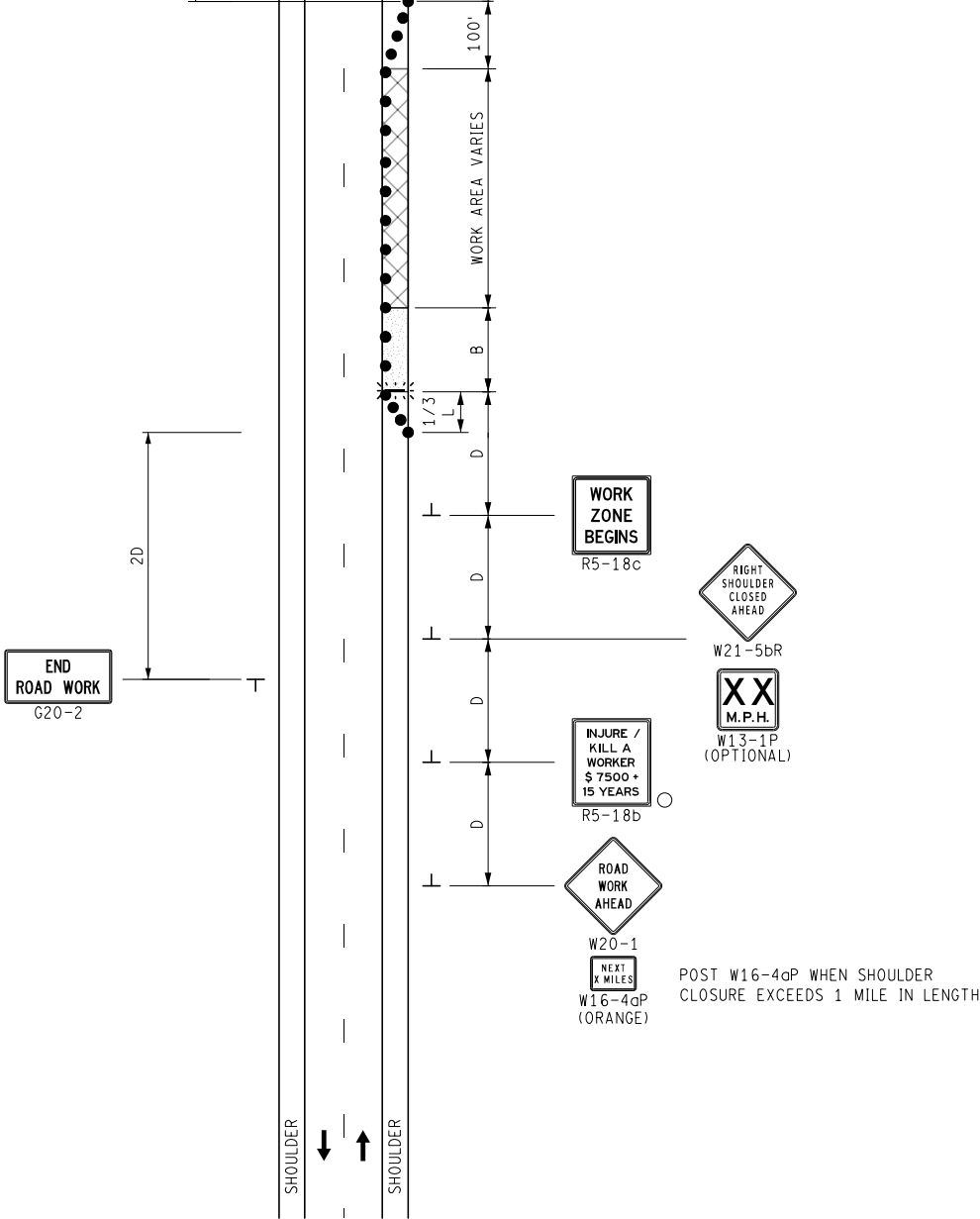
	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	LANE CLOSURE UTILIZING TRAFFIC REGULATORS ON A 2-LANE UNDIVIDED ROADWAY	DATE: MAY 2021
		NO: 110-TR-NFW-2L		SHEET: 1 OF 1

FILE: 110-TR-NFW-2L.dgn



- KEY**
- CHANNELIZING DEVICES
 - ⚡ LIGHTED ARROW PANEL (CAUTION MODE)
 - ← TRAFFIC FLOW
 - REFLECTS EXISTING SPEED LIMIT
 - PLACE SIGN AS INDICATED IN NOTE S2

STANDARD NOTES
 (SEE 102-GEN-NOTES)
 GENERAL: G1, G2, G3, G4
 SIGNING: S1, S2, S3, S5
 DEVICES: TCD1, TCD2, TCD6, TCD7



SIGN MATERIAL SELECTION TABLE

SIGN SIZE	SIGN MATERIAL TYPE		
	TYPE I	TYPE II	TYPE III
≤ 36" X 36"		X	X
>36" X 36" ≤ 96" TO WIDE		X	
> 96" WIDE TO 144" WIDE	X	X	
> 144" WIDE	X		


TYPE I ALUMINUM EXTRUSION
 TYPE II PLYWOOD
 TYPE III ALUMINUM SHEET

ROUNDING OF CORNERS IS NOT REQUIRED FOR TYPE I OR II SIGNS.
 VERTICAL JOINTS ARE NOT PERMITTED.
 HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

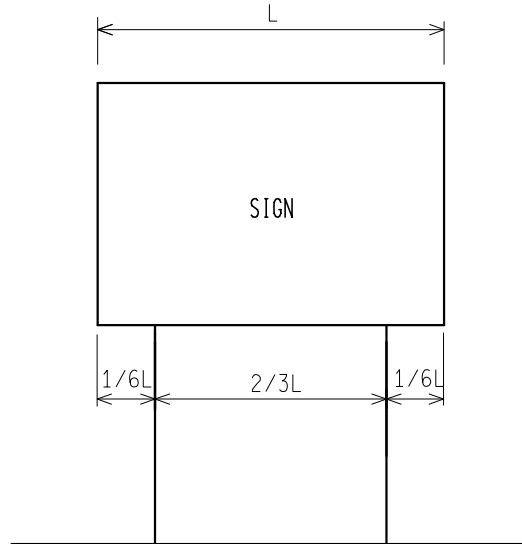
POST SIZE REQUIREMENTS TABLE

SIGN AREA (ft ²)	POST TYPE		
	U-CHANNEL STEEL	SQUARE TUBULAR STEEL	WOOD
≤ 9	1 - 3 lb/ft*	1 - 2" 12 or 14 GA*	N/A
9 ≤ 20	2 - 3 lb/ft	2 - 2" 12 or 14 GA	1 - 4" X 6"*
> 20 ≤ 30	N/A	N/A	2 - 4" X 6"
> 30 ≤ 60	N/A	N/A	2 - 6" X 8"
> 60 ≤ 84	N/A	N/A	3 - 6" X 8"

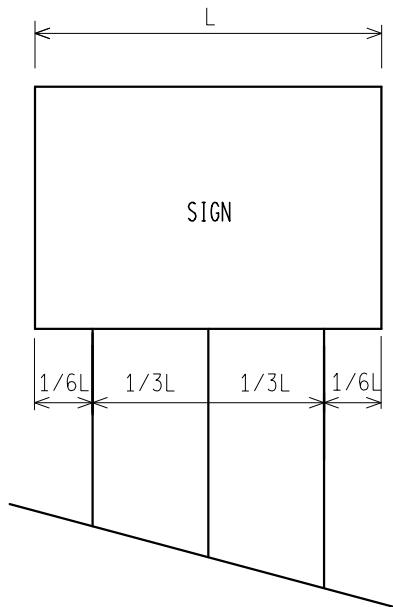
*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
 SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD
 POSTS DEPENDING ON AREA OF SIGN.
 A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

 PREPARED BY DESIGN DIVISION	DEPARTMENT DIRECTOR Kirk T. Steudle APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS		
	DRAWN BY: <u>CON/ECH</u> CHECKED BY: <u>AUG</u>	APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT	_____ F.H.W.A. APPROVAL	<u>11/2/2017</u> PLAN DATE

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING



* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8' MIN. TO 9' MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

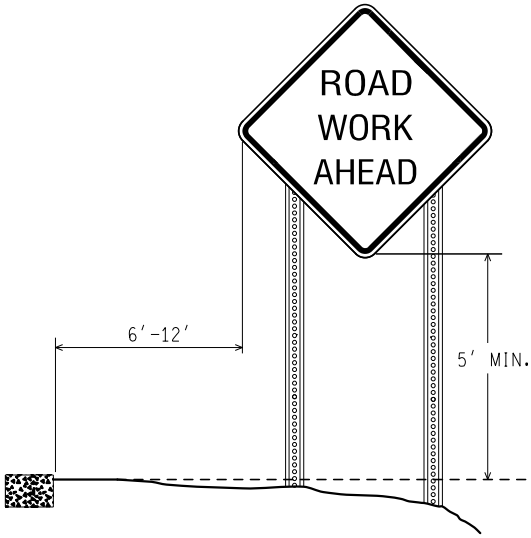
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

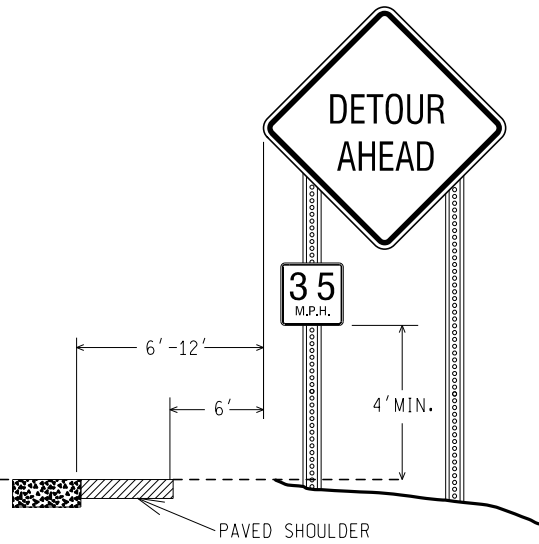
WZD-100-A

SHEET
2 OF 11

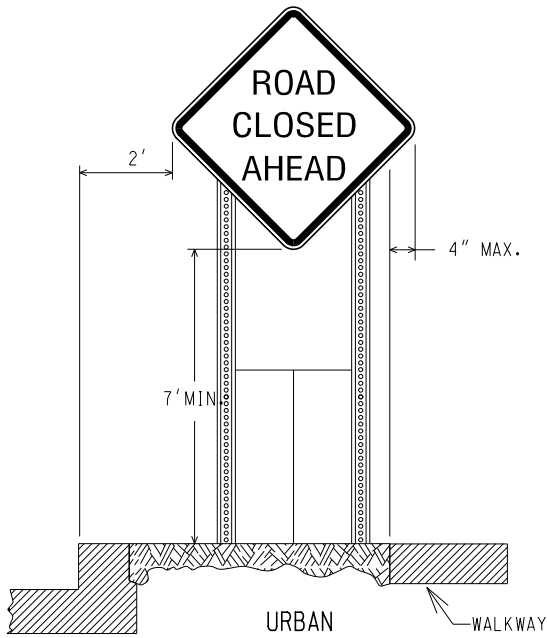
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



RURAL

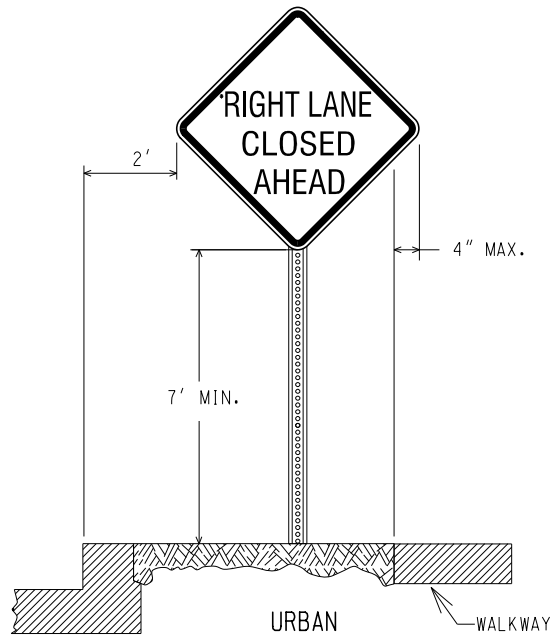


RURAL WITH ADVISORY SPEED PLATE



URBAN

(CURBED AREAS OR WHERE WALKWAYS ARE PRESENT)



URBAN

(CURBED AREAS OR WHERE WALKWAYS ARE PRESENT)

BOTTOM HEIGHT AND OFFSET

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

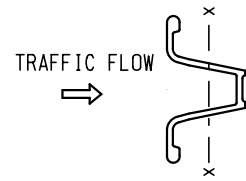
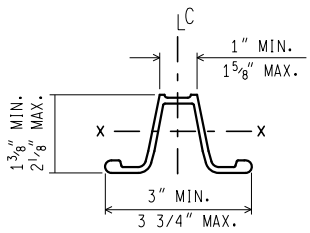
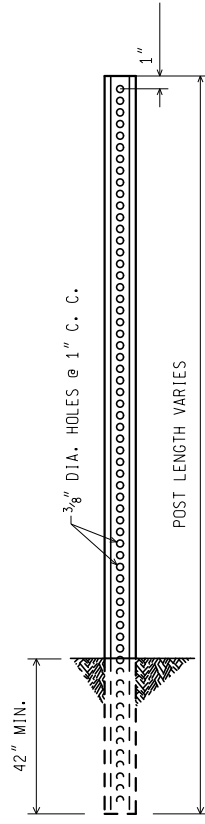
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

SHEET
3 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



WEIGHT = 3 lbs/ft
 SECT. MOD. X.-X. = 0.31 CUBIC INCHES MIN.

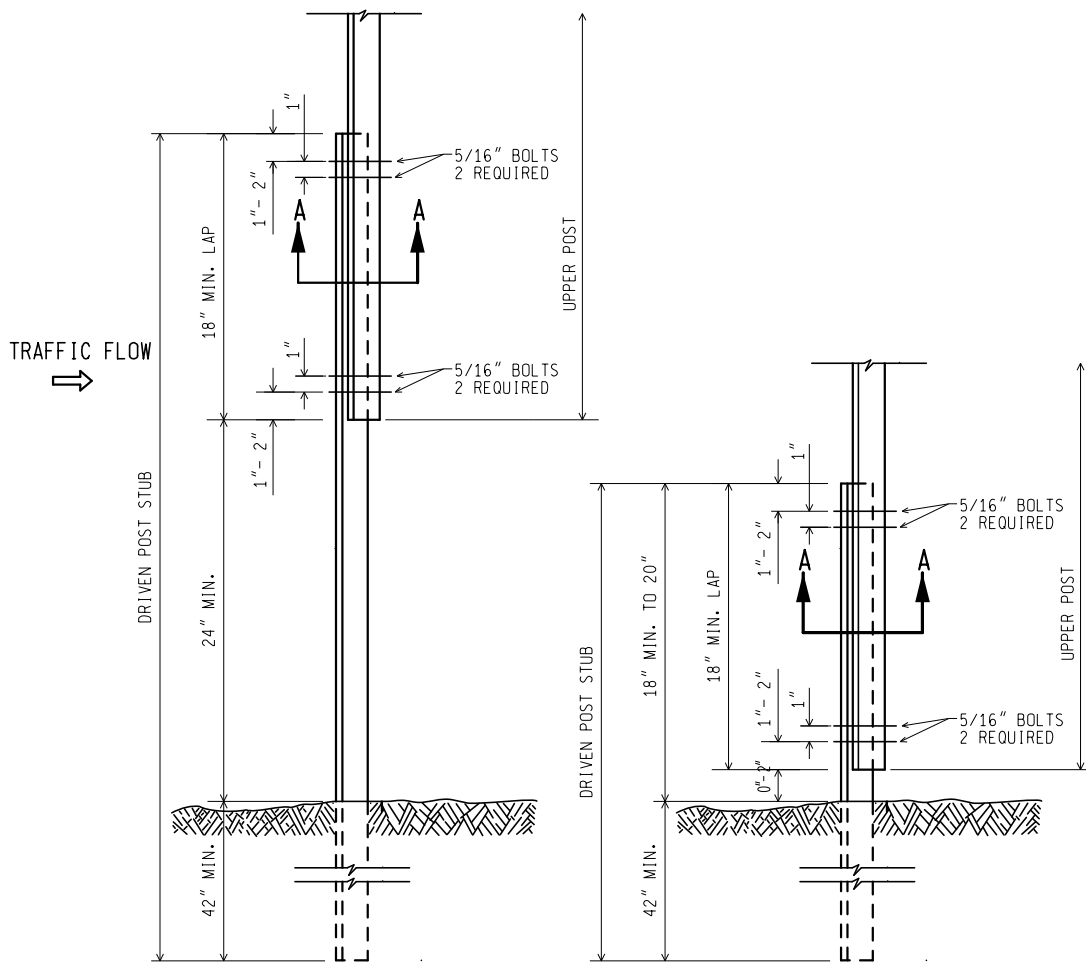
3 lb. U - CHANNEL STEEL POST
 (NO SPLICE)

MOUNT SIGN ON OPEN FACE OF
 U - CHANNEL STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 4 OF 11
------------------------------------------------------------------------------	-------------------	------------------------	-----------	------------------

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



UPPER SPLICE

LOWER SPLICE

3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

MOUNT SIGN ON OPEN FACE OF
UPPER U - CHANNEL STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

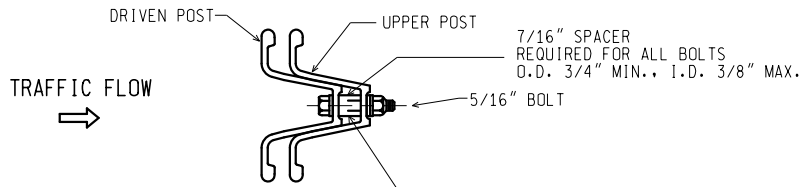
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

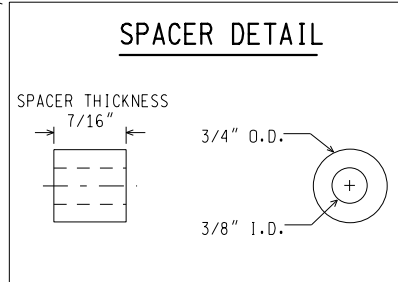
SHEET
5 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



SECTION A-A

7/16" SPACER
 REQUIRED FOR ALL BOLTS
 O.D. 3/4" MIN., I.D. 3/8" MAX.



NOTES:

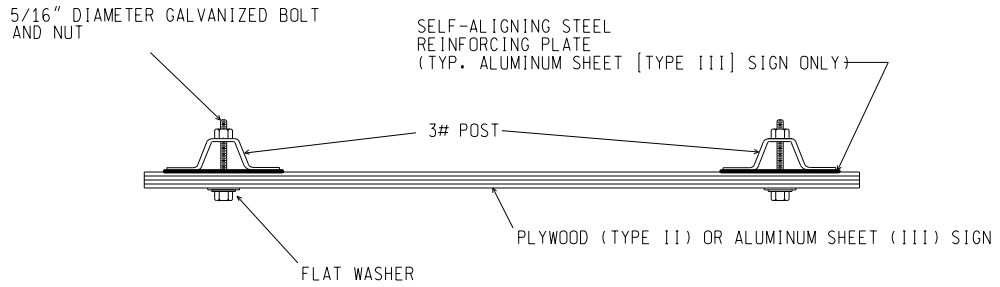
1. THE SPACER THICKNESS SHALL BE 1/16" LESS THAN THE GAP BETWEEN THE POST WHEN POSITIONED IN THE UNBOLTED CONFIGURATION.
2. THE EXTERIOR BOLT (CLOSEST TO LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN A PREPUNCHED HOLE 1" TO 2" FROM THE END OF THE LAP.
3. THE INTERIOR BOLT (FARTHEST FROM LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN THE NEXT PREPUNCHED HOLE.
4. THE DRIVEN POST SHALL ALWAYS BE MOUNTED IN FRONT OF THE UPPER POST WITH RESPECT TO THE ADJACENT ONCOMING TRAFFIC, REGARDLESS OF THE DIRECTION THE SIGN IS FACING.
5. THE SPLICE LAP SHALL BE FASTENED BY FOUR-5/16" DIA. GALVANIZED A449 BOLTS (SAE J429 GRADE 5) OR GALVANIZED A325 BOLTS.

3 lb. U - CHANNEL STEEL POST
 (WITH SPLICE)

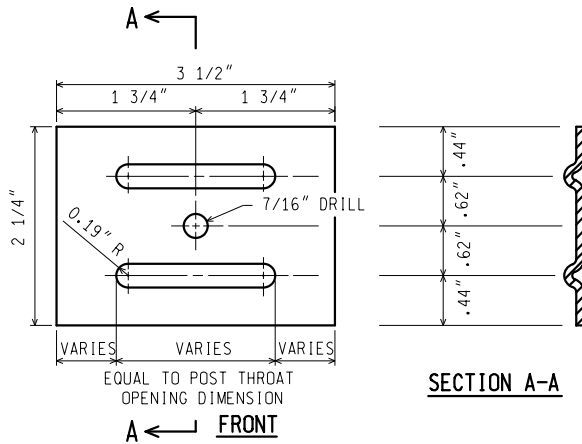
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 6 OF 11
------------------------------------------------------------------------------	-------------------	------------------------	-----------	------------------

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



SIGN TO 3 lb. POST CONNECTION



NOTES: (FOR STEEL SIGN REINF' PLATE)

1. MATERIAL: 12 GAUGE CARBON STEEL.
2. TOLERANCE ON ALL DIMENSIONS $\pm 0.0625"$
3. FINISH-AFTER STAMPING AND PUNCHING, GALVANIZE ACCORDING TO CURRENT SPECIFICATIONS FOR ZINC (HOT GALVANIZE) COATINGS ON PRODUCTS FABRICATED FROM PLATES OR STRIPS

STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE

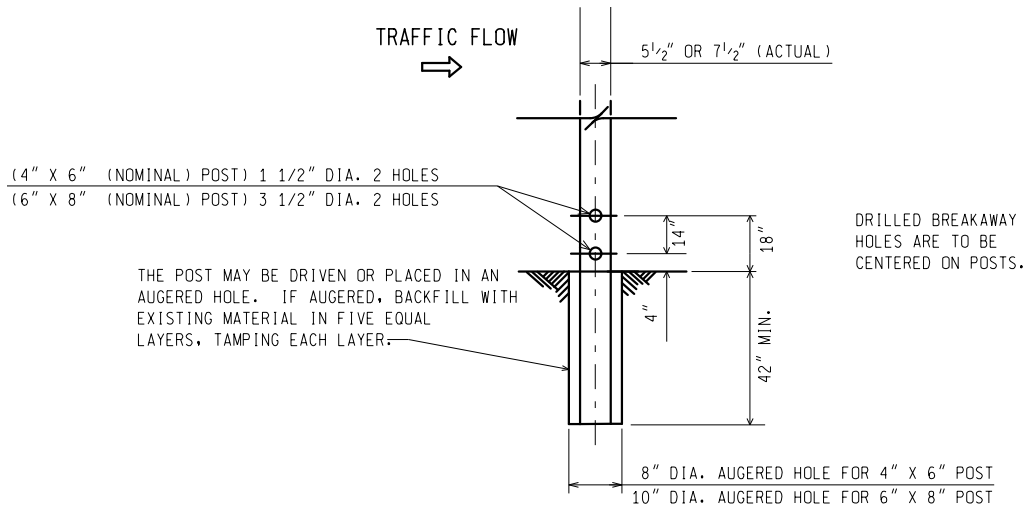
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

F.H.W.A. APPROVAL

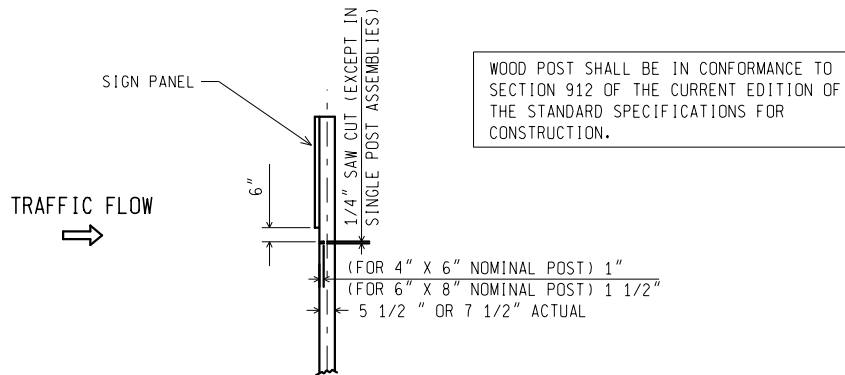
11/2/2017
PLAN DATE

WZD-100-A

SHEET
7 OF 11



**WOOD POST BREAKAWAY HOLES/
DIRECT EMBEDMENT DETAILS**



**SAW CUT DETAIL
(MULTIPLE POST INSTALLATIONS)**

WOOD POST DETAILS

NOT TO SCALE

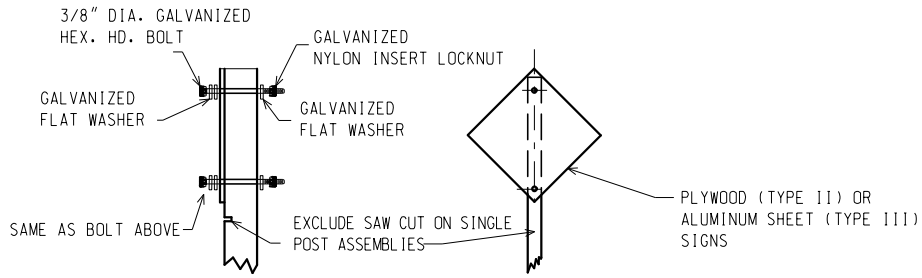
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

F.H.W.A. APPROVAL

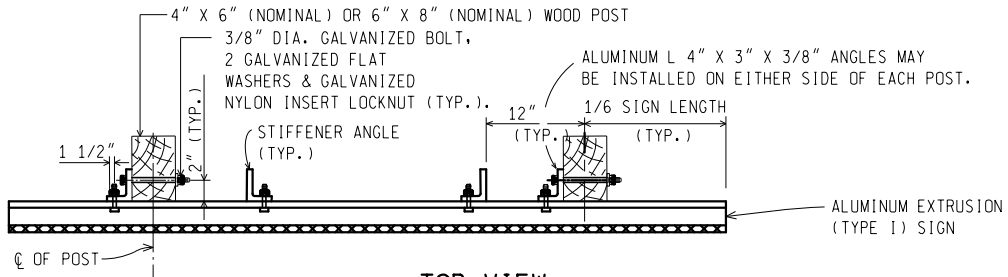
11/2/2017
PLAN DATE

WZD-100-A

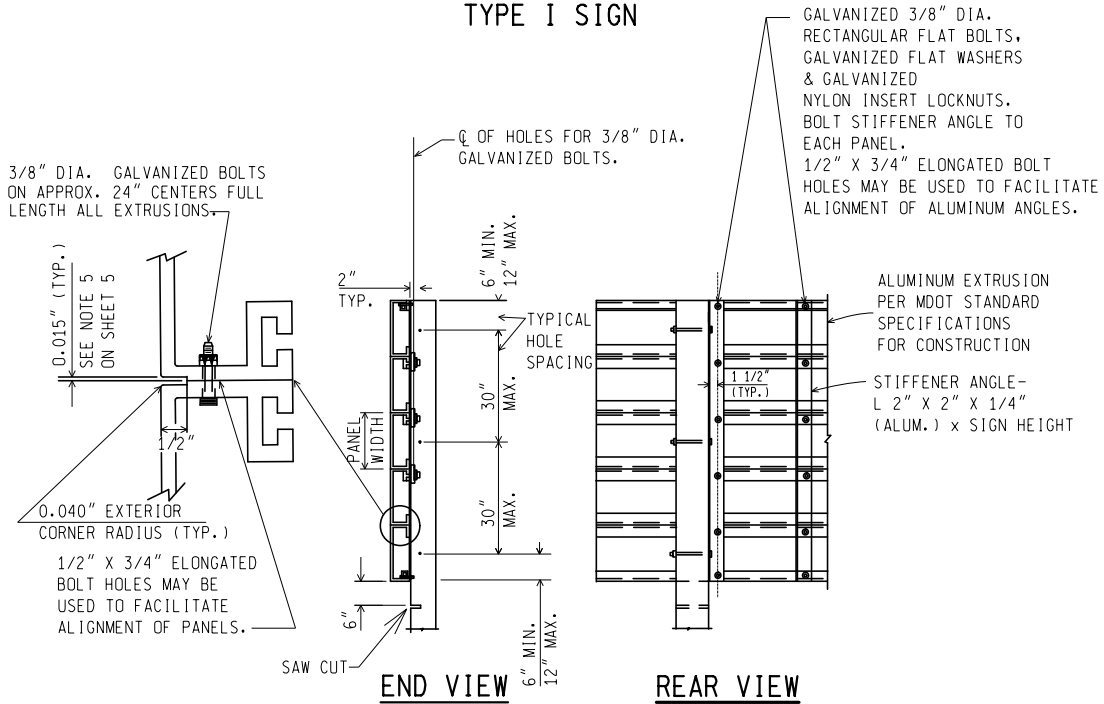
SHEET
8 OF 11



TYPE II AND TYPE III SIGNS



**TOP VIEW
TYPE I SIGN**



TYPE I SIGN - ERECTION DETAILS

WOOD POST CONNECTIONS

NOT TO SCALE

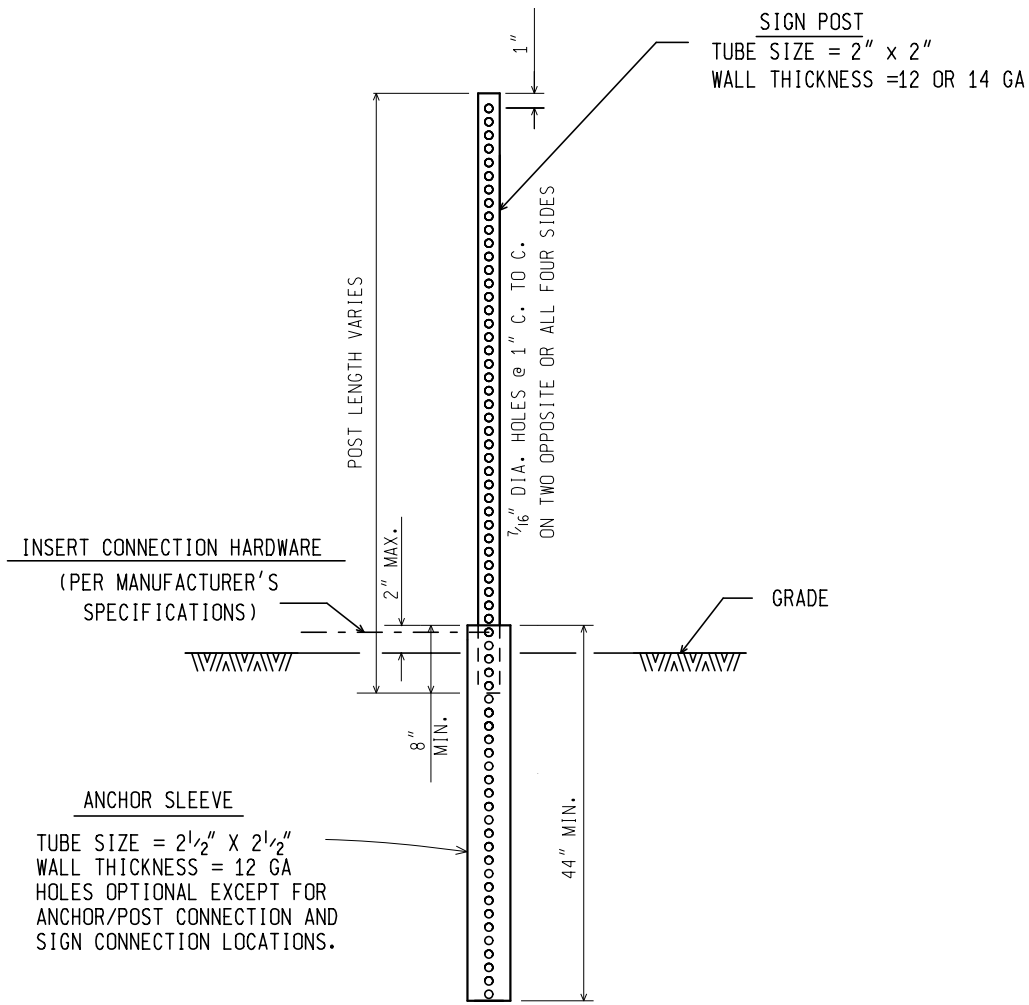
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

SHEET
9 OF 11



SQUARE TUBULAR STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 10 OF 11
------------------------------------------------------------------------------	-------------------	------------------------	-----------	-------------------

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

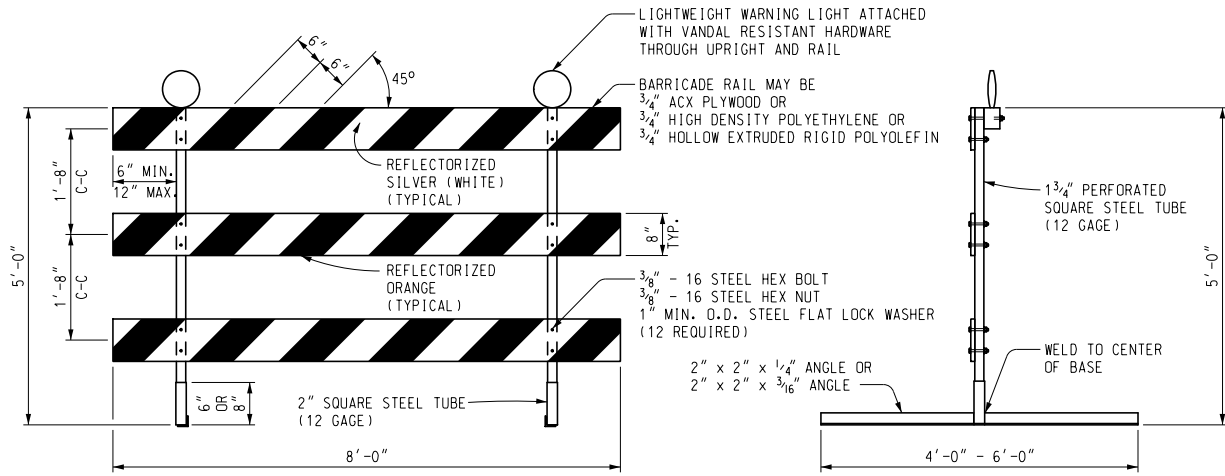
GENERAL NOTES:

1. A MAXIMUM OF TWO POSTS WITHIN A 7 FOOT PATH IS PERMITTED.
2. ALL SIGN POSTS SHALL COMPLY WITH NCHRP 350.
3. ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 42".
4. BRACING OF POST IS NOT PERMITTED.
5. SIGN SHALL BE LEVEL, AND UPRIGHT FOR THE DURATION OF INSTALLATION.
6. ERECT POSTS SO THE SIGN FACE AND SUPPORTS DO NOT VARY FROM PLUMB BY MORE THAN 3/16" IN 3'. PROVIDE A CENTER-TO-CENTER DISTANCE BETWEEN POSTS WITHIN 2 PERCENT OF PLAN DISTANCE.
7. NO MORE THAN ONE SPLICE PER POST, AS SHOWN, WILL BE PERMITTED.
8. POST TYPES SHALL NOT BE MIXED WITHIN A SIGN SUPPORT INSTALLATION.
9. NO VERTICAL JOINTS ARE PERMITTED IN SIGN. NO HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE PERMITTED IN SIGN
10. REMOVE SIGN POSTS AND/OR POST STUBS IN THEIR ENTIRETY WHEN NO LONGER REQUIRED.
11. ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING TEMPORARY SUPPORTS REQUIRED TO INSTALL, MAINTAIN, RELOCATE, AND/OR REMOVE THE TEMPORARY SIGN, INCLUDING SUPPORTS, ARE CONSIDERED TO BE INCLUDED IN THE COST OF THE TEMPORARY SIGN.
12. SAW CUTS IN WOOD POSTS ARE TO BE PARALLEL TO THE BOTTOM OF THE SIGN.
13. POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE TOP OF SIGN.
14. TEMPORARY WOOD SUPPORTS DO NOT REQUIRE PRESERVATIVE TREATMENT.

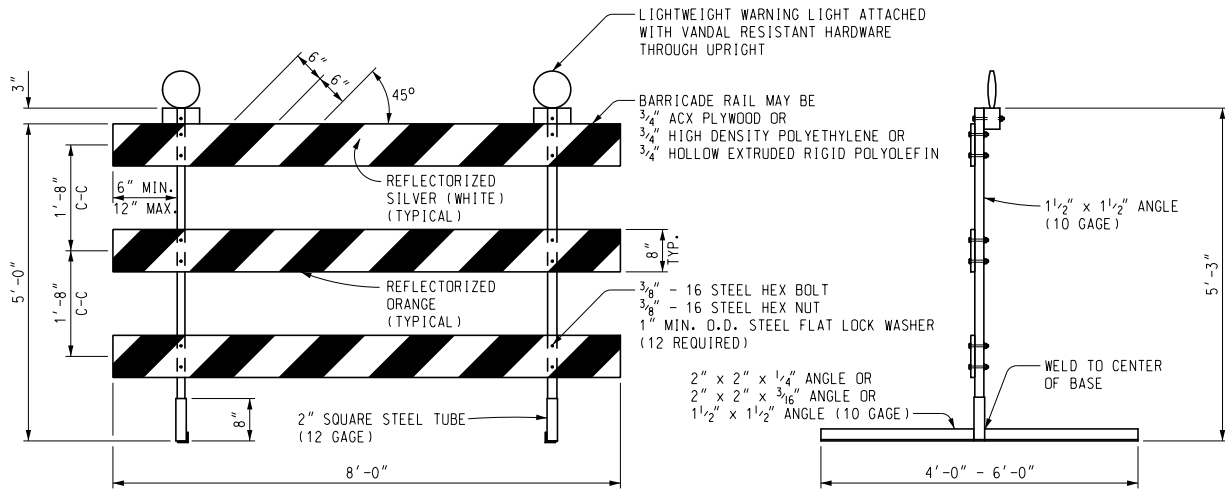
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 11 OF 11
------------------------------------------------------------------------------	-------------------	------------------------	-----------	-------------------

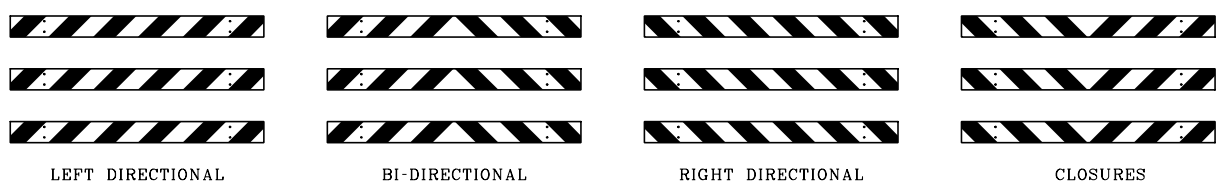
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



FRONT ELEVATION SIDE VIEW
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION SIDE VIEW
ANGLE IRON OPTION



**BARRICADE RAIL SHEETING OPTIONS
 TYPE III BARRICADES**

Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

MDOT
 Michigan Department of Transportation

PREPARED BY
 OPERATIONS
 FIELD SERVICES

DRAWN BY: ECH

CHECKED BY: MWB

DEPARTMENT DIRECTOR
 Paul C. Ajegeba

APPROVED BY: _____
 DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
 (SPECIAL DETAIL)
 DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT 49

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR

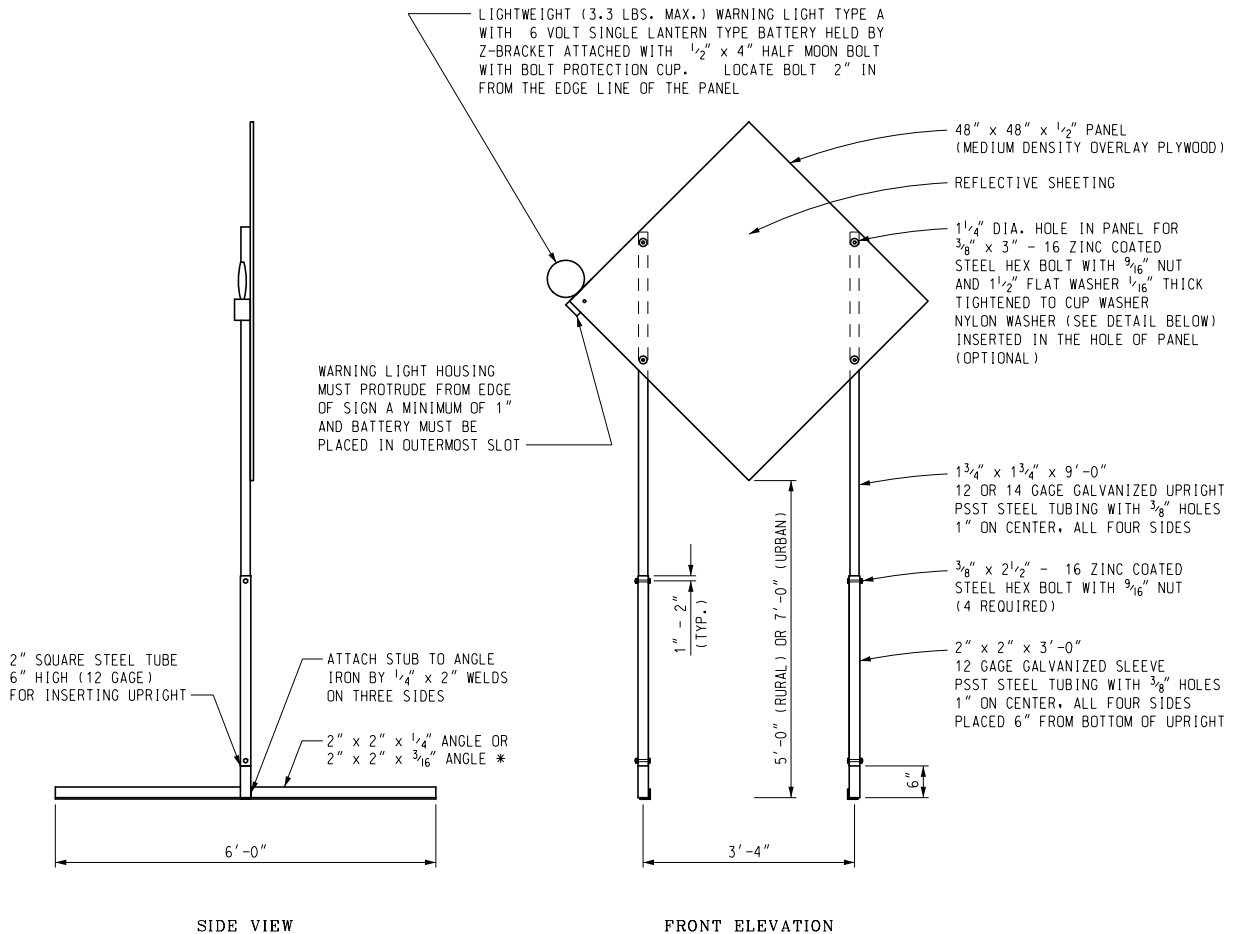
Temporary
 Traffic Control Devices

F.H.W.A. APPROVAL _____

6/16/22
 PLAN DATE

WZD-125-E

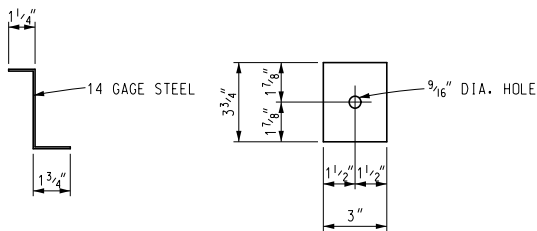
SHEET
 1 OF 3



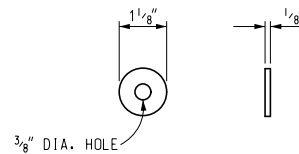
TEMPORARY SIGN SUPPORT

(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END. UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Z-BRACKET DETAIL



OPTIONAL NYLON WASHER

Other temporary sign supports meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF FIELD SERVICES SPECIAL DETAIL

50

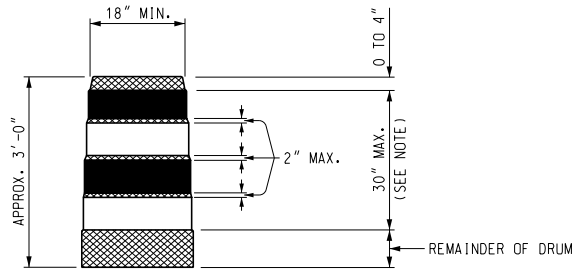
SPECIAL DETAIL
F.H.W.A. APPROVAL

6/16/22
PLAN DATE

WZD-125-E

SHEET
2 OF 3

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- NON REFLECTORIZED ORANGE

NOTE:
 DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

PLASTIC DRUM

NOTES:

2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARRICADE.

WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE III BARRICADES.

SEE ROAD STANDARD PLANS R-113-SERIES FOR TEMPORARY CROSSOVERS FOR DIVIDED ROADWAY, AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMPORARY CONCRETE BARRIER.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL	51	(SPECIAL DETAIL) F.H.W.A. APPROVAL	6/16/22 PLAN DATE	WZD-125-E	SHEET 3 OF 3
----------------------------------------------------------------------------------	----	---------------------------------------	----------------------	-----------	-----------------

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
INSURANCE

CSD:LFS

1 of 1

APPR:CM:DBP:11-19-20

Add the following after the first paragraph in subsection 107.10.C.4, of the Standard Specifications for Construction:

In addition to the above insurance requirements, the following agencies must be listed as additional insured:

City of Midland
Midland County
Midland County Road Commission

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TREE REMOVAL AND CLEARING

ENV:JDG

1 of 4

APPR:DMG:MJO:07-28-23

a. Description. This work consists of all tree removals and clearing of vegetation 3 inches or greater in diameter required for the project as defined in sections 201 and 202 of the Standard Specifications for Construction.

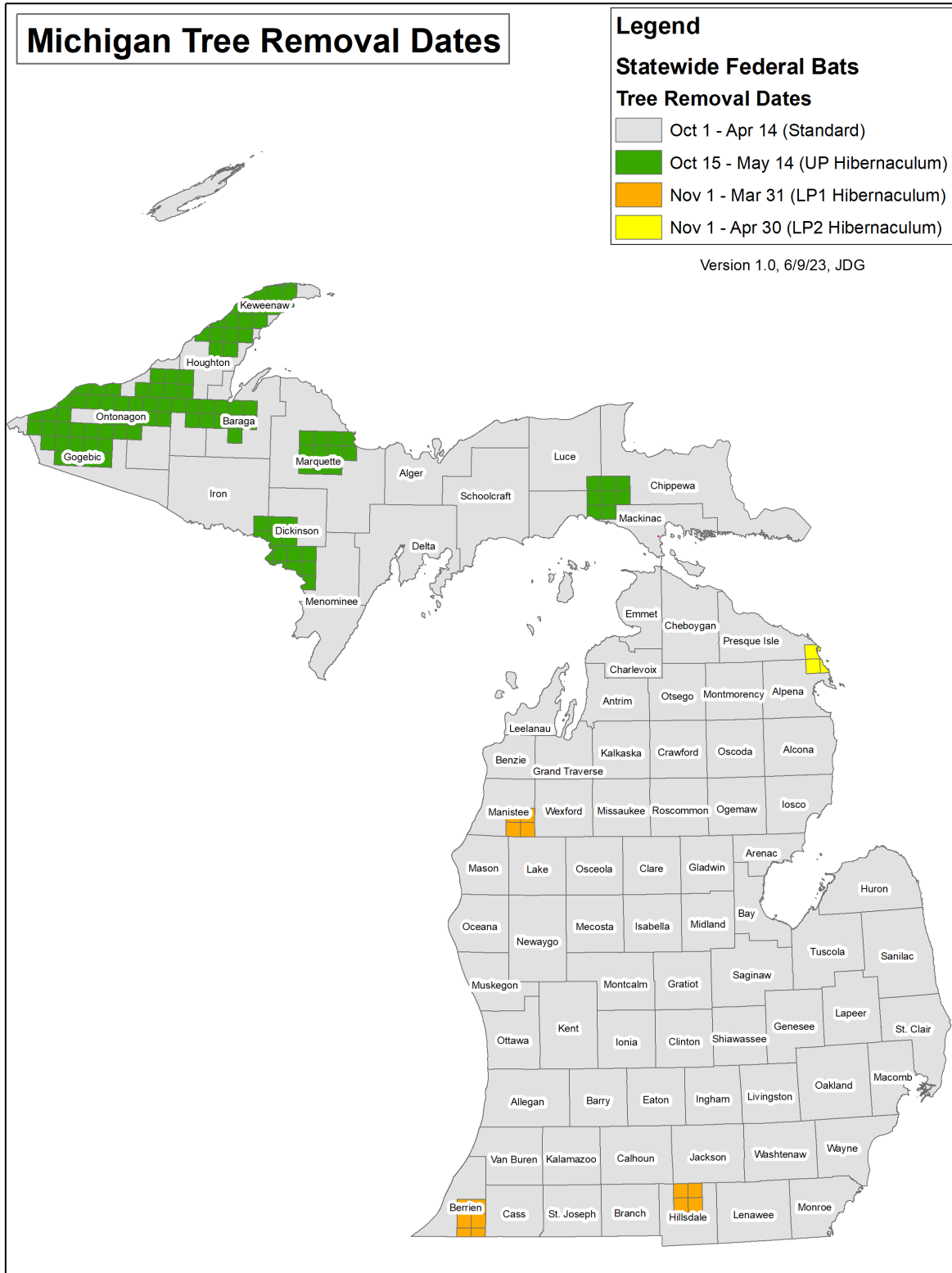
Due to the potential presence of state and federally protected species, complete all tree removals and clearing between October 1st and April 14th, as shown on the Michigan Tree Removal Dates map and Supplemental Information on pages 2 to 4 of this special provision.

b. Material. None specified.

c. Construction. This work must be conducted in accordance with sections 201 and 202 of the Standard Specifications for Construction.

d. Measurement and Payment. Clearing and tree removal will be paid for in accordance with subsections 201.04 and 202.04 of the Standard Specifications for Construction and applicable special provisions.

The work must be conducted between the dates of October 1st and April 14th as shown on the Michigan Tree Removal Dates map and Supplemental Information on pages 2 to 4. If the work is not completed within this timeframe, and additional environmental evaluation is required, the Contractor may face penalties from paying any additional costs and being assessed liquidated damages up to being held in default of the contract.



Supplemental Information

For clarification of hibernaculum and/or buffer areas, see the table below.

If a project crosses two zones, the following dates apply to the entire project:

- Standard and UP Hibernaculum: October 15 and April 14
- Standard and LP1 Hibernaculum: November 1 and March 31
- Standard and LP2 Hibernaculum: November 1 and April 14

County	Townships Containing Hibernacula and/or 5-mile Buffers	
Alpena	T32N R8E T32N R9E	
Baraga	T48N R33W T49N R32W T49N R33W T49N R34W T49N R35W	T50N R32W T50N R33W T50N R34W T50N R35W
Berrien	T6S R17W T6S R18W T7S R17W T7S R18W	T8S R17W T8S R18W
Chippewa	T44N R6W	T45N R6W T45N R7W
Dickinson	T38N R28W T38N R29W T39N R28W T39N R29W T39N R30W T39N R31W	T41N R29W T41N R30W T40N R28W T40N R29W T40N R30W T40N R31W T42N R29W T42N R30W
Gogebic	T46N R42W T46N R43W T46N R44W T46N R45W T47N R42W T47N R43W T47N R44W T47N R45W T47N R46W	T48N R44W T48N R45W T48N R46W T48N R47W T49N R45W T49N R46W T49N R47W T50N R45W
Hillsdale	T05S R03W T05S R02W	T06S R03W T06S R02W
Houghton	T49N R35W T49N R36W T50N R35W T50N R36W T51N R36W	T54N R33W T54N R34W T55N R32W T55N R33W T55N R34W

		T55N R35W
	T52N R36W	T56N R32W T56N R33W T56N R34W
Iron	T41N R31W T42N R31W	
Keweenaw	T56N R31W	T58N R29W T58N R30W T58N R31W T58N R32W
	T57N R29W T57N R30W T57N R31W T57N R32W T57N R33W	T59N R29W T59N R30W
Luce	T45N R08W	
Mackinac	T43N R7W T43N R8W	
	T44N R7W T44N R8W	
Manistee	T21N R13W T21N R14W	T22N R13W T22N R14W
Marquette	T46N R26W T46N R27W T46N R28W	T48N R25W T48N R26W T48N R27W T48N R28W
	T47N R25W T47N R26W T47N R27W T47N R28W	
Menominee	T38N R28W	
Ontonagon	T48N R40W T48N R41W T48N R42W T48N R43W	T49N R38W T49N R39W T49N R40W T49N R41W T49N R42W
	T51N R37W T51N R38W T51N R39W T51N R41W T51N R42W T51N R43W T51N R44W	T50N R37W T50N R38W T50N R39W T50N R40W T50N R41W T50N R42W T50N R43W T50N R44W T52N R37W T52N R38W
Presque Isle	T33N R08E	

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SHLD, CL II, MODIFIED

MCRC:ROWE

1 of 1

AUGUST 2023

a. Description. This work consists of installing aggregate shoulders in accordance with Sections 307 and 902 of the Standard Specifications for Construction except as modified herein.

b. Materials. Provide materials in accordance with Sections 307 and 902 of the Standard Specifications for Construction consisting of 100% crushed limestone meeting gradation requirements for MDOT Dense Graded Aggregate 23A.

c. Construction. Place Shld, Cl II, Modified in accordance with Section 307 of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured, and paid as specified in Section 307 of the Standard Specifications for Construction at the contract unit price using the following pay item:

Pay Item	Pay Unit
Shld, Cl II, Modified	Ton

Shld, Cl II, Modified includes all materials, labor, and equipment necessary to complete the work as described.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HOT MIX ASPHALT PRICES FOR ADJUSTMENTS

MCRC:ROWE

1 of 1

APPR:MAS:NDM:02-16-23

a. Description. This special provision identifies the price(s) that will be used in all payment adjustments for work related to HMA item(s) used in conjunction with this contract.

If the Contractors bid is lower than the established base price any positive adjustment will use the Contractors bid in the calculation for the adjustment. If the Contractors bid is lower than the established base price any negative adjustment will use the base price established herein in the calculation for the adjustment.

If the Contractors bid is higher than the established base price any positive adjustment will use the Contractors bid in the calculation for the adjustment. If the Contractors bid is higher than the established base price any negative adjustment will use the Contractors bid in the calculation for the adjustment.

b. Base Unit Prices. The base price(s) shown below will be used as specified above in calculating adjustments for the pay item(s) listed herein:

Pay Item Code	Pay Item Name	Unit	Base Price
5010025	Hand Patching	Ton	\$113.82
5010061	HMA Approach	Ton	\$115.90
5012025	HMA, 4EML	Ton	\$73.53
5012037	HMA, 5EML	Ton	\$78.10

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, NON-FREEWAY

RSD:NJM

1 of 5

APPR:DMG:JJG:04-05-23

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat (TRM), bonded fiber matrix (BFM), or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding mixture as called for on the plans.
2. Chemical fertilizer nutrient, Class A.
3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 95 percent

Topsoil Salvaged: 5 percent

4. Mulching material.
5. Permanent Turf Reinforcement Mat (TRM) must be 100 percent synthetic and consist of 100 percent ultraviolet (UV) stabilized polyolefin fibers sewn between two layers of black UV stabilized polypropylene netting with polyolefin thread. The TRM must meet the following "minimum average roll value" requirements:

<u>Property</u>	<u>Test Method</u>	<u>Requirement</u>
Mass/Unit Area	ASTM D6566	10 oz/syd
UV Stability @ 1000 hrs	ASTM D4355/D4355M	80 percent
Tensile Strength (MD)	ASTM D6818	165 lbs/ft

Acceptance. Supply a general certification for the permanent TRM from one of the following manufacturers or approved equal:

Recyclex TRM	American Excelsior Co., Arlington, TX	(800) 777-7645
P300 TRM	North American Green, Poseyville, IN	(800) 772-2040
Landlok 450 TRM	Propex, Inc., Chattanooga, TN	(800) 621-1273

Excel PP5-10 TRM	Western Excelsior, Evansville, IN	(866) 540-9810
Vmax P550 TRM	North American Green, Poseyville, IN	(800) 772-2040

6. Bonded Fiber Matrix (BFM). Furnish a product from the list below or an approved equal.

Soil Guard	Mat Inc., Floodwood, MN	(888) 477-3028
HydroStraw BFM	HydroStraw, LLC, Rockford, WA	(800) 545-1755
HydraMax	North American Green, Poseyville, IN	(800) 772-2040
Bindex BFM	American Excelsior Co., Arlington, TX	(800) 777-7645
ProMatrix EFM	Profile Products LLC, Buffalo Grove, IN	(800) 508-8681

If multiple grades of the selected product are available, use the grade appropriate for the application as approved by the Engineer.

Approved equal BFM must consist of long strand, virgin wood fibers (90 percent by weight) bound together by a pre-blended, high-strength polymer adhesive (10 percent by weight). The virgin wood fibers will be thermally refined from clean whole wood chips. Ensure the organic binders are a high-viscosity colloidal polysaccharide tackifier with activating agents to render the resulting matrix insoluble upon drying.

7. Modified Mulch Blanket. Where modified mulch blanket is required, provide an excelsior mulch blanket free of chemical additives. Ensure the netting thread is 100 percent biodegradable and manufactured with non-plastic materials such as jute, sisal, or coir fiber. Degradable, photodegradable, UV-degradable, oxo-degradable, or oxo-biodegradable plastic netting including polypropylene, nylon, polyethylene, and polyester is not an acceptable alternative. All netting materials must have a loose weave design with movable junctions between the machine and cross-machine direction twines that move independently and reduce the potential for wildlife entanglement.

For Slope Restoration, Non-Freeway, Type F, provide a single net modified mulch blanket from the list below or an approved equal.

Premier Straw Single Net FibreNet	American Excelsior Co.	(800) 777-7645
Curlex NetFree 100% Biodegradable	American Excelsior Co.	(800) 777-7645
ECS-1B Biodegradable Single Straw	East Coast Erosion Control	(800) 582-4005
S1000BD Single Net	Enviroscape ECM, Ltd.	(888) 550-1999
Excel SR-1 All Natural	Western Excelsior Corp.	(866) 540-9810

For Slope Restoration, Non-Freeway, Type G, provide a double net modified mulch blanket from the list below or an approved equal.

Premier Straw Double Net FibreNet	American Excelsior Co.	(800) 777-7645
Curlex II FibreNet	American Excelsior Co.	(800) 777-7645
ECX-2B Double Net Biodegradable	East Coast Erosion Control	(800) 582-4005
S2000BD Double Net	Enviroscape ECM, Ltd.	(888) 550-1999
Excel R-2 All Natural	Western Excelsior Corp.	(866) 540-9810

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas designated for slope restoration but no later than the maximum time frames

specified in subsection 208.03 of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth as detailed herein and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to prepared soil surface. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soils or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, and contains the species called for in the seeding mixture.

If the seeded turf is not well-established at the end of the first growing season, the Contractor is responsible to re-seed until the turf is well established and approved by the Engineer.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	Pay Unit
Slope Restoration, Non-Freeway, Type __	Square Yard

1. Place **Slope Restoration, Non-Freeway, Type A** in all areas not described in the other types of slope restoration and will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type A** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; Mulch; and Mulch Anchoring.

2. Place **Slope Restoration, Non-Freeway, Type B** parallel (8 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope and in any ditch with a grade less than 1.5 percent, as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type B** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type B** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and Mulch Blanket.

3. Place **Slope Restoration, Non-Freeway, Type C** in areas that have a 1 on 2 slope, any ditch with a grade of 1.5 percent to 3 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type C** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type C** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and Mulch Blanket, High Velocity.

4. Place **Slope Restoration, Non-Freeway, Type D** in areas that have a slope steeper than 1 on 2, any ditch with a grade steeper than 3 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type D** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type D** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and Turf Reinforcement Mat.

5. Place **Slope Restoration, Non-Freeway, Type E** as shown on the plans, or as directed by the Engineer and measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type E** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and Bonded Fiber Matrix.

6. Place **Slope Restoration, Non-Freeway, Type F** parallel (8 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope and in any ditch with a grade less than 1.5 percent. **Slope Restoration, Non-Freeway, Type F** includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and single net modified Mulch Blanket.

7. Place **Slope Restoration, Non-Freeway, Type G** in areas that have a 1 on 2 slope and in any ditch with a grade of 1.5 percent to 3 percent. **Slope Restoration, Non-Freeway,**

Type G includes installing Topsoil Surface, Furn, LM or Topsoil Surface, Salv, 4 inch; Fertilizer, Chemical Nutrient, Class A; seeding mixture; and double net modified Mulch Blanket.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
NON-FREEWAY CENTERLINE SINUSOIDAL CORRUGATIONS

PMK:MKB

1 of 3

APPR:KPK:LLR:09-28-22

a. Description. Mill 1/2 inch deep sinusoidal corrugations into the centerline of bituminous pavements at the locations shown on the plans. Complete this work in accordance with section 822 of the Standard Specifications for Construction, Standard Plan R-112 Series, and this special provision.

b. Equipment. Use equipment that can continuously mill the required pattern and is able to provide a smooth cut depression with up to 1/8 inch between peaks and valleys within the cut depression. Use cutting head(s) independently suspended from the power unit to allow the cutting tool to self-align with the pavement slope. Equip the cutting tool with guides to provide consistent alignment of each cut in relation to the centerline.

Demonstrate the ability to achieve the desired surface inside each depression without snagging the bituminous surface or spalling the concrete surface prior to production cutting. The use of diamond blades is required for installations on concrete.

c. Construction. Corrugations must be 14 inches ($\pm 1/2$ inch) long parallel to the direction of travel; the width as shown in the included details for the specified corrugation type ($\pm 1/2$ inch) perpendicular to the direction of travel; and have a cross section depth of 1/16 to 1/2 inch ($+1/8$ inch) at the edge of the rumble (and increasing towards the center of the rumble on a crowned section). Ensure the cross slope at the bottom of the depression is level on crowned pavements or in the same direction as the superelevated pavement cross slope. The distance from the corrugation to any transverse joint must be at least 6 inches but less than 12 inches. Mill the corrugations in a continuous, repeating sinusoidal pattern as shown in the included details. Gaps in the corrugations should be made in accordance with what is shown for the corresponding standard corrugations in Standard Plan R-112 Series, with edgeline sinusoidal corrugations following the standards for non-freeway shoulder corrugations.

Remove the grinding spoils or waste from the roadway surface immediately. Do not permit the spoils or waste to be scattered, blown, tracked by traffic, or blown by the wind.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	Pay Unit
Sinusoidal Corrugations, Milled, HMA Centerline.....	Foot

Payment for the above pay items includes disposal of spoils necessary to complete the work as described. The completed work will be measured in feet along the corrugation alignment from the center of the first corrugation placed to the center of the last corrugation placed, excluding sections gapped for intersections, bridges, rail crossings or other locations, as directed by the Engineer.

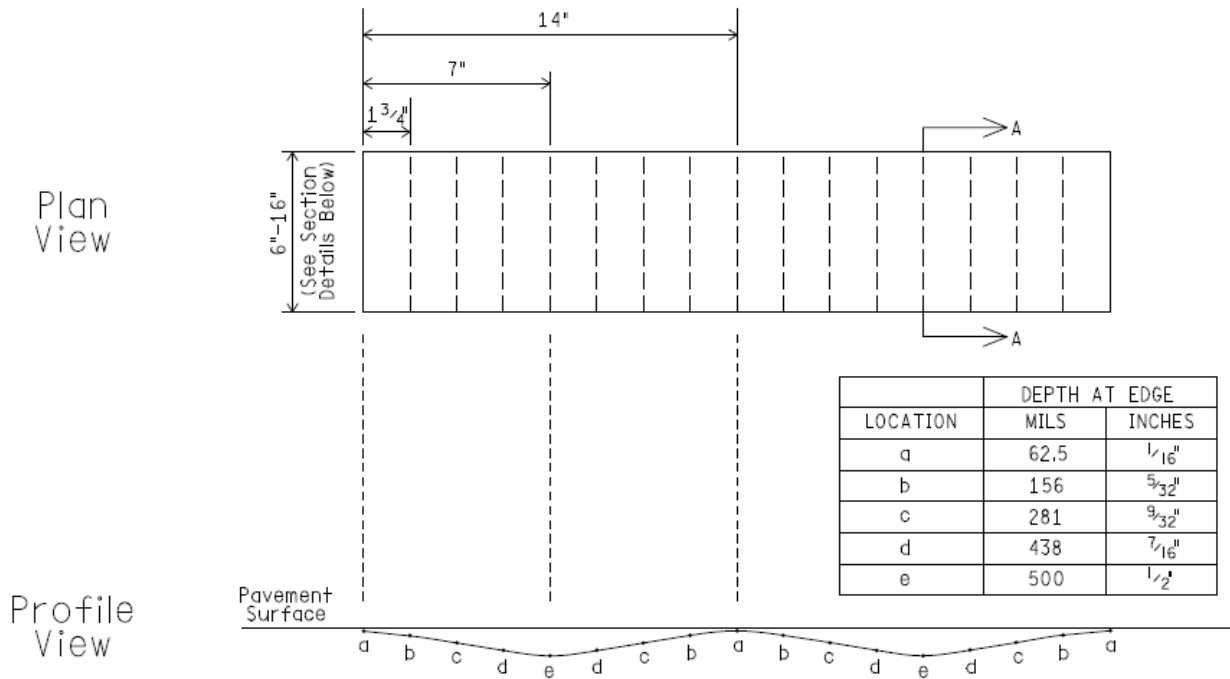
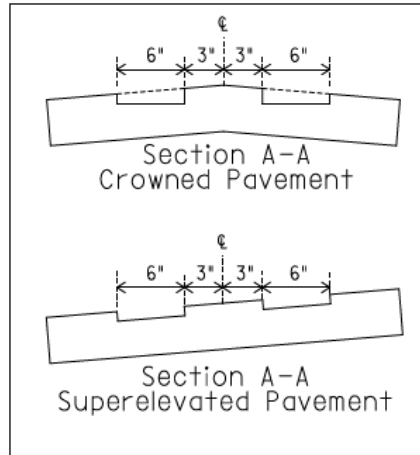
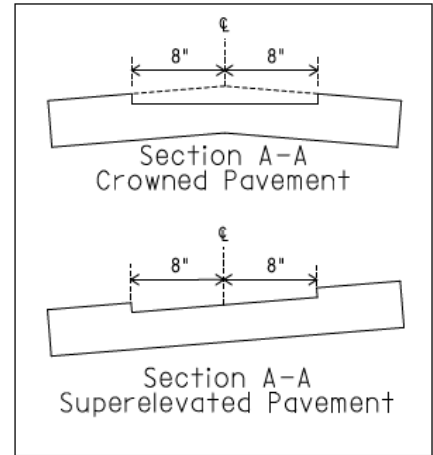


Figure 1

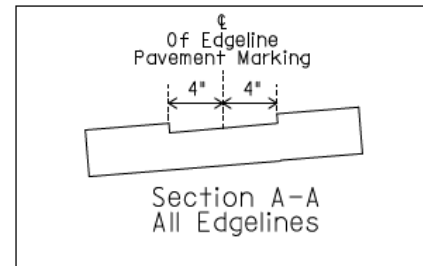
Cross-section
Details



Concrete
Centerline



HMA
Centerline



Concrete & HMA
Edgeline

Figure 2

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIXING PORTLAND CEMENT CONCRETE

CFS:JFS

1 of 1

APPR:CPM:TEB:12-17-21
FHWA:APPR:12-20-21

Add the following paragraph to subsection 1001.03.E.1 of the Standard Specifications for Construction:

Weigh and batch each material into its respective weighing device within the tolerance from the individual batch weights or quantities documented in the approved JMF as follows:

- a. Cementitious Materials. Provide cementitious materials within -2.0 percent to +5.0 percent of the required weight.
- b. Aggregates. Provide aggregate within ± 3.0 percent of the required weight.
- c. Water. Provide net water to not exceed the required water quantity and the required maximum water/cementitious ratio (w/cm).
- d. Air Entraining Admixtures. Provide the necessary quantity or dosage rate per 100 pounds of cementitious material to achieve the required air content of fresh concrete.
- e. Other Admixtures. Provide water-reducing and other admixtures within ± 3.0 percent of the required quantity.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**ALKALI SILICA REACTIVITY OF FINE AGGREGATE USED IN PORTLAND
CEMENT CONCRETE**

CFS:CPM

1 of 2

APPR:TES:JFS:05-19-20
FHWA:APPR:05-27-20

a. Description. This special provision sets out the requirements for all fine aggregate used in Portland cement concrete (PCC) mixtures to be tested by an independent testing laboratory and determined to be resistant to the potential for deleterious expansion caused by alkali-silica reactivity (ASR). ASR testing is not required for concrete pavement repairs, temporary concrete pavements, and other items covered by the contract.

Except as explicitly modified by this special provision, all materials, test methods, and PCC mixture requirements of the standard specifications and the contract apply.

b. Definition. ASR is a chemical reaction which occurs over time within concrete between highly alkaline cement paste and reactive forms of silica found in some aggregates. In the presence of moisture, an expansive ASR gel is formed which can exert pressure within the concrete, causing random cracking and premature deterioration of the concrete.

c. Laboratory Requirements. The independent laboratory, including all associated testing equipment and staff performing ASR testing of aggregates, must be proficient in ASR testing in accordance with the applicable test methods and procedures. The laboratory must provide documentation to the Regions that they are qualified and proficient to conduct ASR testing in accordance with the required test procedures.

d. Laboratory Testing Requirements. Perform testing on fine aggregate proposed to be used in any PCC Job Mix Formula (JMF). The Contractor must ensure the testing is conducted in accordance with a designated standard test procedure described herein. Test results must conform to the specified criterion for one of the following standard test methods. The Rounding Method described in *ASTM E29* must be used when reporting expansion test results.

(1) Method 1. *ASTM C1293*. Concrete Prism Test. If the expansion of concrete prisms is not greater than 0.040 percent (rounded to the nearest 0.001 percent) after 1 year, the fine aggregate is considered non-deleterious to ASR and may be used in the JMF.

(2) Method 2. *ASTM C1567*. Mortar Bar Test. If no previous test data are available for the fine aggregate that shows it is resistant to ASR using Method 1, above, replace 25 to 40 percent of the Portland cement in the concrete mixture with a supplementary cementitious material (slag cement or fly ash). A blended cement meeting the requirements of *ASTM C595/C595M* containing the above Portland cement and supplementary cementitious material proportions may also be used.

Demonstrate the ability of the supplementary cementitious material to control the deleterious expansion caused by ASR by molding and testing mortar bars in accordance with the standard

test method described in *ASTM C1567* using the mix proportions and constituent sources for both the aggregates and the cementitious materials that will be used for the project. Make at least three test specimens for each cementitious materials-aggregate combination. If the average of three mortar bars for a given cementitious materials-aggregate combination produces an expansion less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the JMF associated with that combination will be considered non-deleterious to ASR. If the average expansion is 0.10 percent (rounded to the nearest 0.01 percent) or greater, the JMF associated with that combination will be considered not sufficient to control the deleterious expansion caused by ASR and the JMF will be rejected.

(3) Method 3. *ASTM C1260*. Mortar Bar Test. If the expansion of the mortar bars is less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the fine aggregate is considered non-deleterious to ASR and may be used in the concrete without the need for ASR mitigation.

The Engineer will not approve the use of the JMF if the expansion exceeds the threshold limits for the respective *ASTM* test method used. The test results and report are valid for 2 years from the completion of testing.

e. Submittals. A current ASR test report for the fine aggregate proposed to be used in the Job Mix Formula (JMF) must accompany each JMF. Ensure the ASR test report is accompanied by a certification stating which test procedure was followed and that all testing was conducted in accordance with the designated standard test procedure.

f. Measurement and Payment. All materials, labor, equipment, and laboratory facilities necessary to complete the work in accordance with this special provision is included in other contract pay items and no additional compensation will be permitted.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**QUALITY INDEX FOR PORTLAND CEMENT CONCRETE (FOR LOCAL AGENCY
PROJECTS ONLY)**

CFS:CPM

1 of 4

APPR:TES:JFS:05-28-20
FHWA:APPR:06-04-20

a. Description. This special provision establishes pay factor and price adjustments for Portland cement concrete (PCC) based on Quality Assurance (QA) testing of 28-day compressive strength and fresh concrete air content of PCC. Perform all work in accordance with the standard specifications and this special provision.

b. Materials. Mixture requirements will be in accordance with section 1004 of the Standard Specifications for Construction, unless otherwise specified in the contract.

c. Sampling. Sampling will be in accordance with subsections 1003.03.H and 1003.03.L of the Standard Specifications for Construction, except as modified herein. A sample is defined as a representative quantity of concrete taken during production which is used to measure the quality characteristics for the concrete. Compressive strength specimens for each sample consist of two cylinders, either 4-inch by 8-inch or 6-inch by 12-inch. A random number will be generated for each respective subplot. The sampling frequency for a production lot is one QA sample per subplot.

See subsection 1003.03.J in the Standard Specifications for Construction for reduced sampling and testing for small incidental quantities.

d. Quality Index Analysis. The Engineer's QA test results will be used to determine the pay factor (PF) and price adjustment (ADJ). The Contractor QC test results will be not used for PF and ADJ analysis. The Engineer will complete PF and ADJ analysis within 7 working days after completion of all 28-day compressive strength testing for the represented production lot or quantity of concrete. All values of PF and OLPF in these formulas are decimal, not percent. All values of PF and OLPF are rounded to two decimal places.

Table 1: Quality Index Parameter Specification Limits

Quality Characteristic	Specification Limits
Air Content of Fresh Concrete (percent)	5.5 – 8.5
Rejection Limit (percent)	<5.0 or >9.0
Conc. Temp. (deg. F)	45 - 90 at time of placement
Slump (max.) (inch)	See footnotes a through l in Table 1004-1 of the Standard Specifications for Construction
28-day Compressive Strength (psi)	For LSL see Table 2
Rejection Limit - 28-day Compressive Strength	See Table 2

Table 2: Quality Index Parameter Specification Limits for 28-Day Compressive Strength

Parameter	Grade of Concrete						
	3000	3500	3500HP	4000	4000HP	4500	4500HP
Lower Specification Limit (psi)	3000	3500	3500	4000	4000	4500	4500
Rejection Limit for an Individual Strength Sample Test Result (psi)	2500	3000	3000	3500	3500	4000	4000

1. Pay Factor for 28-Day Compressive Strength (PF_s). (not to exceed 1.00)

$$PF_s = (\text{QA Test Strength})/\text{LSL}$$

Where:

QA Test Strength = QA 28-day compressive strength sample test result.

LSL = Lower specification limit (see Table 2).

If the tested strength does not meet the rejection limit specified in Table 2, the Engineer will require additional evaluation as described in section e of this special provision.

2. Pay Factor for Air Content of Fresh Concrete (PF_{ac}). The pay factor for air content of fresh concrete (PF_{ac}) will be in accordance with Table 3.

Table 3: Air Content of Fresh Concrete Pay Factor (PF_{ac})

Air Content of Fresh Concrete (percent)	Pay Factor (PF_{ac})
5.5 – 8.5	1.00
5.0 – 5.4	0.50
Below 5.0	Rejection
8.6 – 9.0	0.75
Above 9.0	Rejection

If the air content of fresh concrete is below 5.0 or above 9.0 percent, the Engineer will elect to do one of the following:

A. Require removal and replacement of the entire quantity of concrete represented by the test with new testing conducted on the replacement concrete and repeat the evaluation procedure.

B. Allow submittal of a corrective action plan for the Engineer's approval. If the Engineer does not approve the plan for corrective action, subsection d.2.A. will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

3. Overall Lot Pay Factor (OLPF). Use the following formula to determine the OLPF and ADJ. The OLPF will not exceed 1.00:

$$\text{OLPF} = (0.60 \times \text{PF}_s) + (0.40 \times \text{PF}_{ac})$$

Where:

PF_{ac} = Pay factor for Air Content (see Table 3)

4. Price Adjustment (ADJ). Use the following formula to determine the ADJ.

$$\text{ADJ} = (\text{OLPF} - 1)(\text{Price})$$

5. Price Adjustment for Small Incidental Quantities. Price adjustment for 28-day compressive strength deficiencies will be based on test results for the corresponding weekly QA test specimens and the pay factor (PF_s) calculated in accordance with the formula defined in subsection d.1. The price adjustment is calculated by the following equation:

$$(\text{ADJ}) = (\text{PF}_s - 1)(\text{Price})$$

Where:

ADJ = Price adjustment per pay unit to be applied to the quantity represented by the QA test.

PF_s = Pay Factor for 28-day compressive strength (not to exceed 1.00).

Price = Base price when established for the pay item or the Contractors unit price bid when concrete is included in another pay item without a base price.

e. Evaluation of Rejectable Concrete. The Engineer will require additional evaluation to decide what further action may be warranted. Acceptance for air content of fresh concrete will be based on QA test results reported at the time of concrete placement.

If the Engineer determines that non-destructive testing (NDT) is appropriate, this work will be done by the Contractor in the presence of the Engineer within 45 calendar days of concrete placement. All costs associated with this work will be borne by the Contractor. Ensure complete set of non-destructive tests is conducted (in accordance with the respective standard test method) at a minimum three randomly selected locations. If NDT is used to estimate the in-situ strength, a calibrated relationship between the project job mix formula (JMF) under evaluation and the NDT apparatus must have been established prior to NDT testing in accordance with its respective standard test method.

If the 28-day compressive strength QA test results show that the rejection limit (as specified in Table 2) has not been achieved, the quantity of concrete under evaluation will be rejected and the Engineer will require additional evaluation to decide what further action may be warranted.

Propose an evaluation plan and submit it to the Engineer for approval before proceeding. The results from NDT will be used only to decide what further action is required. This determination will be made by the Engineer, as follows:

1. For Non-structural Concrete. If no test result from non-destructive testing falls below the lower specification limit (LSL) 28-day compressive strength, the represented quantity of

concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 1.00 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations in accordance with section d of this special provision.

2. For Structural Concrete (including overhead sign foundations). If no test result from non-destructive testing falls below the lower specification limit (LSL), the represented quantity of concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 0.85 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

3. If one or more of the non-destructive test results fall below the lower specification limit (LSL) 28-day compressive strength, the Engineer may elect to do one of the following:

A. Require removal and replacement of the entire rejected quantity of concrete, including new initial tests for quality index analysis conducted in accordance with section d of this special provision.

B. Allow the Contractor to submit a plan for corrective action, for the Engineer's approval, to address the disposition of the rejected concrete. If the Engineer does not approve the plan for corrective action, subsection e.3.A of this special provision will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

C. Allow the in-situ quantity of concrete under evaluation to remain in place and a pay factor (PF_s) of 0.50 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

f. Measurement and Payment. If a price adjustment is made for reasons included in this special provision, that adjustment will be made using the base price established for the specific item. If a contract unit price requires adjustment for other reasons not described in this special provision, the adjustments will be made using the original unit price and the adjustments will be cumulative.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
DISSEMINATION OF PUBLIC RELATIONS INFORMATION

CFS:JGG

1 of 1

APPR:LFS:MRB:04-14-21
FHWA:APPR:04-14-21

a. Description. This special provision establishes the requirements for dissemination of any public relations communications and/or products intended for an external audience pertaining to this contract. Dissemination must not be made without prior written approval from the Department's Office of Communications, and then only in accordance with explicit instructions by the Department. This includes the use of the Michigan Department of Transportation (MDOT) logo.

A violation of this provision may be considered a default of contract and the Department may exercise its rights in accordance with subsection 108.11 of the Standard Specifications for Construction.

b. Public Relations Information. Examples of communications and/or products may include, but are not limited to: brochures, flyers, invitations, programs, postings on social media sites or web sites, new or updated video, digital versatile disk (DVD) productions, or video sharing productions, exhibits, presentations, or any other printed materials intended for an external audience.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
VALUE ENGINEERING CHANGE PROPOSAL

COS:MRB

1 of 4

APPR:CJB:JJG:04-30-20
FHWA:APPR:05-06-20

a. Description. A value engineering change proposal (VECP) modifying plans, specifications, or other contract requirements may be submitted for this project if the proposed change results in reduced construction cost, a higher quality product, improved safety, or a shorter contract time. The estimated cost savings must be quantifiable in relation to the contract cost. No work can begin before written authorization. The proposed change must not alter the essential functions or characteristics of the project or significantly delay the completion of the project. A VECP or conceptual VECP will only be considered after project award. Essential functions and characteristics include, but are not limited to, service life, operating costs, ease of maintenance, desired appearance, impact on utilities and right-of-way, mobility and safety of the motorist, bicyclist and pedestrian; safety of all onsite workers (construction, inspection, testing, etc.) in the progress of the work, design standards, and safety standards. This special provision does not restrict the Contractor from proposing improvements to the project that may not result in net cost savings. A conceptual VECP stating the basic concept and approximate cost savings may be submitted for preliminary consideration.

b. Submittal of Conceptual VECP. Submit a conceptual proposal for the preliminary evaluation. Upon review by the Engineer, one of the following actions will be taken:

- Conceptual approval and a request for the Contractor to submit a VECP.
- Request for additional information.
- Denial of the VECP.

Preliminary review of a conceptual proposal reduces the Contractor risk of subsequent denial and does not commit the Department to eventual approval. Submit the following information for each conceptual VECP using the Value Engineering Change Proposal Form (Form # 1962) marked Conceptual VECP.

1. A description of the difference between the existing pay items and the proposed changes, and expected benefits.
2. A set of conceptual plans and a description of proposed changes to the pay items.
3. An estimate of the anticipated cost savings or increase.
4. A date by which the Department must make a decision to avoid delays to the existing contract and obtain the cost savings. Also include information on the amount of time necessary to develop the full proposal and impacts to the progress schedule.
5. If impacting maintenance of traffic provisions, identify proposed changes and impacts to the Special Provision for Maintaining Traffic.

After approval of conceptual VECP, the Contractor must follow section c of this special provision for the final VECP.

c. Submittal of Final VECP. Submit the following information for each VECP using Value Engineering Change Proposal Form (Form # 1962) marked Final VECP.

1. A description of the difference between the existing contract and the proposed change, and the advantages and disadvantages of each, including effects on service life, operating costs, ease of maintenance, desired appearance, impact on utilities and right of way, mobility and safety of the motorist, bicyclist and pedestrian; design standards, and safety standards.

2. A complete set of plans, if necessary, and specifications showing the revisions relative to the original contract. This portion of the submittal must include design notes and construction details. If the proposal has plans, these must be signed and sealed by the Contractor's Professional Engineer licensed in the State of Michigan.

3. All costs and proposed unit prices must be documented by the Contractor and must include a cost comparison summarizing all the items the VECP replaces, reduces, eliminates, adds, or otherwise changes from the original contract on a spreadsheet.

4. A date by which the Department must make a decision to avoid delays to the existing contract and to obtain the proposed cost savings.

5. If impacting maintenance of traffic provisions, identify proposed changes and impacts to the Special Provision for Maintaining Traffic. If the submitted revisions to the maintaining traffic provision are approved and require any corrections, the Contractor is responsible for all additional costs related to corrective measures.

6. A statement detailing the affect the proposal will have on the time for completing the contract and impacts to the critical path and progress schedule.

7. A description of any known uses or testing of the proposed changes and the conditions and the results.

8. If the VECP submittal includes pay items associated with a warranty, include the latest version of the warranty specification.

d. Evaluation. By submitting the VECP, the Contractor agrees not to hold the Department liable for its decision or for any delays to the work attributable to the VECP. Decisions on VECP's are not subject to appeal. Work on the project will continue in accordance with the requirements of the contract until a work order is issued which incorporates the VECP changes. The Department has final authority of the acceptability of a VECP and of the estimated net savings attributable to the adoption of all or any part of the VECP. If, in the judgment of the Engineer, contract prices do not represent a fair measure of the value of work to be performed or to be deleted, the Engineer will use other means to determine the estimated net savings.

The Department may modify a VECP, with the concurrence of the Contractor, in order to make it acceptable. The Contractor's share of the savings will be based on the modified VECP.

If the VECP is accepted, in whole or in part, the written acceptance will be issued by a work order

and followed with a contract modification. The work order and contract modification will include the necessary changes in the plans and specifications and any conditions upon which the approval is based. Acceptance of the VECP will not extend the time of contract completion unless specifically provided for in the work order and contract modification.

A VECP will be evaluated in accordance with the following:

1. The Engineer will determine if a VECP qualifies for consideration and evaluation. The Engineer may deny any VECP that requires excessive time or costs for review, evaluation or investigation. The Engineer may deny any VECP that is not consistent with the Department's design policies and criteria for the project.

2. The Department will not accept a VECP that is similar to a change in the plans or specifications under consideration by the Department for the project at the time the proposal is submitted; nor will the Department accept a proposal based upon, or similar to, standard specifications, general use special provisions or standard drawings adopted by the Department after the advertisement for the contract. The Department reserves the right to make such changes without compensation to the Contractor under the provisions of subsection 103.02 of the Standard Specifications for Construction.

3. The Contractor will have no claim against the Department for additional costs or delays resulting from denial or untimely acceptance of a VECP. These costs include but are not limited to: development costs, loss of anticipated profits, increased material or labor costs, or untimely response.

4. A VECP will be denied if equivalent options are already provided in the contract.

5. A saving resulting solely from the elimination or reduction in quantity of a contract pay item will not be considered as a VECP. A saving resulting from the elimination or reduction in quantity of a pay item specified as part of a VECP may be considered.

6. In calculating the value of cost savings, the Department has the right to disregard the Contract bid prices, if such prices do not represent the value of the work to be performed or to be deleted, and has the right to calculate the savings based on reasonable cost for such work.

7. A VECP cannot be used to alter incentive and disincentive rates and maximum payments on A + B and/or lane rental projects.

8. A VECP will be denied if the design consultant for the contractor is also the design consultant for the Department or other apparent conflicts of interest exist.

9. A VECP may be denied if it was rejected as a Value Engineering alternative during the development phase.

e. Time Frame for VECP Evaluation. The Contractor will be notified of the Department's decision to approve or deny a conceptual or final VECP within 14 calendar days of receipt of the VECP. If a written acceptance has not been received within this time frame, and the date has not been extended by mutual agreement of both parties, the VECP is denied. The Department's decision is final and there is no appeal.

f. Future Use of VECP. The Department reserves the right to use all or any part of a VECP on other contracts without obligation or compensation to the Contractor. If the VECP is accepted, the Department may use or disclose any information necessary to incorporate the VECP on future projects.

g. Payment for Work under the VECP. The Engineer may reject all or any portion of work performed under an approved VECP if results are unsatisfactory. The Engineer will direct the removal of rejected work and construction will proceed under the original contract requirements. There will be no payment for work performed under the proposal, or for its removal.

No work related to a VECP will be performed under force account. Agreed prices must be reached for any new or modified contract pay items related to the VECP before the VECP is approved.

The changes will be incorporated into the Contract by changes in quantities of unit bid items, new agreed unit price items, lump sum or any combination, as appropriate, under the Contract. Unless there is a differing site condition as described in subsection 103.02 of the Standard Specifications for Construction, the Contractor will not receive additional compensation for quantity overruns, design errors, supplemental surveys, geotechnical investigations, additional items or other increases in cost that were not foreseen in the accepted VECP, unless otherwise approved by the Engineer.

The work order and authorization will include the price for performing all affected items of work and the estimated net savings in the cost of performing the work directly attributable to the VECP. VECP payments only involve direct savings or costs. Indirect savings or costs (time, user delay, contract delay, etc) are not included in VECP payment calculations. The calculations of VECP payments are independent from the payments or penalties for contract time related issues. The Contractor will be paid 50 percent of this net savings based on as constructed or plan quantities whichever is in the best interests of the Department. The amount specified in the work order and authorization constitutes full compensation to the Contractor for the VECP and the performance of that work.

$(\text{Cost of Deleted Work}) - (\text{Cost of Added Work}) = \text{Net Savings}$

$\text{Payment} = (\text{Net Savings})/2$

Note: Approved VECP's will be paid using the pay item code "1200000", item description of "Value Engineering" and a unique secondary descriptor differentiating each VECP with the pay unit of "Dollar" for the contract modification.

The Contractor's development costs for the proposed VECP, including all costs associated with design, are not reimbursable.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONSTRUCTION DOCUMENT MANAGEMENT

COS:RJC

1 of 3

APPR:JJG:LFS:01-19-23
FHWA:APPR:01-19-23

a. Description. This work consists of meeting MDOT's construction document management (CDM) system requirements. Submit all project documentation for this contract in electronic format and place it in MDOT's CDM system, unless otherwise noted in this special provision. No paper documents, in printed format (faxes, letters, etc.) are permitted except as allowed by this special provision or specifically approved by the Engineer. The Contractor is responsible for keeping all information in the CDM system up to date throughout the execution of the contract.

b. Digitally Encrypted Electronic Signatures. All documents that require Contractor or subcontractor signatures or signed authorizations by the Contractor or subcontractor must be signed using an MDOT issued digitally encrypted electronic signature. The MDOT approved digital signature tool is the OneSpan Sign ID Verification & Acceptance Electronic signature Solution (OneSpan), and OneSpan Sign Mobile Applications. Digital signature software is provided by MDOT for use only on MDOT projects at no cost to the Contractor. Instructions on how to use MDOT's digitally encrypted electronic signature can be obtained at the following website. The website also provides support for users.

www.michigan.gov/MDOT-esign

Scanned signatures, cursive fonts or other non-conforming signatures are not permitted in lieu of digitally encrypted electronic signatures.

The OneSpan signature appliance creates a digital envelope that is distributable for signature by email. OneSpan workflow does not allow changes to be made to the original document after the first signature is placed and uploaded to the document host location. It is the responsibility of the Contractor to provide all individual signatory names and email addresses at the preconstruction meeting to expedite document processing and payment.

Failure to submit documents utilizing OneSpan will result in the documents being rejected by the Engineer and returned to the Contractor. No payment will be made for any affected work items until all required documents are received with validated digitally encrypted signatures.

c. Contractor Access to MDOT's Construction Document Management System (ProjectWise). The Contractor must use MDOT's current CDM system (ProjectWise). ProjectWise access and software is available at no cost to all contractors, suppliers and other vendors associated with the project. User account setup, installation details, and access to ProjectWise may be requested by sending an e-mail request to:

MDOT-ProjectWiseConst@michigan.gov

d. Contractor Authorized Requestors. Designate two authorized requestors at the

preconstruction meeting. The authorized requestors are:

1. The only individuals that can request the Engineer to provide or withdraw ProjectWise access for this contract.
2. Responsible to designate contract roles in ProjectWise (submitter or read only).
3. Responsible for promptly notifying the Engineer of any ProjectWise user access changes for this contract.

e. Training. Additional documentation and training for CDM system processes, details of scheduled classes, and methods for requesting training are available at the following website:

<https://mdotjboss.state.mi.us/SpecProv/projectwisesupport.htm>

f. Technical Issue Resolution. Upon discovery of a ProjectWise access issue immediately notify the Engineer with a copy sent to the following e-mail resource:

MDOT-ProjectWiseConst@michigan.gov.

g. Document Format and Naming Standards. The Engineer may reject documents that are deemed to be unsuitable. This includes documents submitted that are named incorrectly, illegible, unreadable, locked, etc. Re-submit any corrected documents via ProjectWise. Failure to address rejected documents may delay progress payments.

Use the document naming conventions as documented by the Department and maintained on the Department's website:

https://www.michigan.gov/documents/mdot/MDOT_Contractor_Standard_Naming_Conventions_for_Document_Submittals_653665_7.pdf

h. Document Workflows. Electronic review/approval of documents will be accomplished through ProjectWise workflows and e-mail notifications. A workflow is an ordered group of milestones, or states, through which a document passes on its way to completion.

Documents placed in the ProjectWise Contractor In-Box folders will initially have a state of "Pending." Once the Contractor has finalized the document, change the state from "Pending" to "Submitted."

Complete the following actions:

1. Upload all documents into the corresponding Contractor In-Box folder.
 - A. Ensure all documents are named correctly per the document naming conventions.
2. Select the "Change State" option and then select "Next" to submit the document.
3. When the email message appears please send to the Engineer, or their approved representative, providing notification that there are new documents submitted.

The Engineer will review all documents added to these folders and move them to the appropriate

document folder for further review, processing, or records storage.

Furnish paper bills of lading/delivery tickets to the Engineer on the jobsite for any material that is paid based on weight or shipping volume, unless utilizing a Department approved e-ticketing process. Scanning of other manifests, seed tickets, or delivery confirmations will be as directed by the Engineer.

i. File/Document Retention. The electronic files stored in ProjectWise are the official project documentation and will be retained per the Department's document retention schedule.

j. Measurement and Payment. The work included in this special provision will not be paid for separately and is considered to be included in other items of work in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PREVAILING WAGE AND LABOR COMPLIANCE SYSTEM

COS:AS

1 of 2

APPR:RJC:MRB:03-24-20
FHWA:APPR:03-30-20

a. Description. This work consists of the required use of a prevailing wage and labor compliance (PWLC) system for all prevailing wage documentation as directed by the Engineer. Input all required certified payroll documentation into the PWLC system (LCPtracker) and update this documentation throughout the execution of the contract. Certified payroll information is to be submitted in the PWLC system per the time requirements in the 20SP-107D - Labor Compliance.

b. Contractor Responsibility. Coordinate all electronic document submittals including documentation supplied by other companies (e.g. subcontractors, suppliers, fabricators, etc.) as detailed in this special provision. All companies will directly submit their certified payroll information into the PWLC system.

c. General Requirements. Submit all certified payroll information as required in this special provision and the 20SP-107D - Labor Compliance. Provide employee zip codes as part of the certified payroll submission. This information will be redacted from any certified payroll reports to protect worker anonymity. Zip code information will be anonymized and used for federal, state, and legislative prevailing wage and labor reporting.

All data entry will be submitted through the following program and website:

Program: LCPtracker

Login Website: <http://www.lcptracker.net>

General Information website: www.lcptracker.com

A tutorial for this system can be found though the website provided.

d. Condition of Payment. Post all documents electronically into the PWLC system. Electronic posting and submittal of documents is a condition of payment for this contract. Documents submitted in any other manner, unless required otherwise in this special provision or directed by the Engineer, will not be accepted and will delay payment.

e. Digitally Encrypted Electronic Signatures. Ensure all documents that require signature authorizations are signed using a digitally encrypted electronic signature. Further information regarding how to obtain a digital signature can be found at the following website:

www.michigan.gov/mdot-esign

f. Contractor Preparation for Tracking Software:

1. Information about LCPtracker is available to the Contractor and other project companies (e.g. subcontractors, suppliers, etc.) at the following website:

www.lcptracker.com.

2. Access to the PWLC system is provided at no cost to the Contractor. The project office will setup the project in LCPtracker and assign the Contractor. The Contractor will setup other project companies to submit certified payrolls and prevailing wage/labor compliance documents. Once setup in the system the Contractor and other project companies may access the software at the following website:

www.lcptracker.net

3. Use Internet Explorer to access the PWLC system. The Department has tested and will support Internet Explorer versions 8, 9, 10 and 11.

g. Document Format. The Engineer reserves the right to electronically reject documents that are deemed to be unsuitable. This may include documents submitted that are illegible or unreadable or contain inappropriate information. The submitting company must re-submit the corrected documents into the PWLC system. Failure to do so will be considered noncompliance and may delay progress payments.

h. Training. LCPtracker offers biweekly contractor training sessions, user support manuals, quick start guides, e-Training videos, and a software support staff available Monday thru Friday 8 a.m. to 8 p.m. EST accessible through the online interface.

i. File/Document Retention. The electronic files submitted in the PWLC system are the official contract documents and must follow all Department document retention schedules.

j. Technical Issue Resolution. Upon discovery of an LCPtracker issue immediately notify the Engineer with a copy sent to the following e-mail resource:

MDOT-LCPtracker@Michigan.gov

k. Measurement and Payment. The work included in this special provision will not be paid for separately and is considered to be included in other items of work in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SOURCE OF STEEL AND IRON (BUY AMERICA)

CFS:JGG

1 of 2

APPR:LLR:AG:10-13-22
FHWA:APPR:10-16-22

Delete subsection 105.10, on page 1-60 of the Standard Specifications for Construction, in its entirety and replace with the following:

105.10. Source of Steel and Iron. Provide steel and iron materials and products for permanent incorporation into the work that were produced only in the United States per Title 23 of the CFR Section 635.410, Buy America Requirements.

All steel and iron products and manufacturing processes of the steel and iron material in a product, including but not limited to the following steps; smelting, melting, rolling, extruding, machining, bending, grinding, drilling, welding, galvanizing, and coating, must occur within the United States. Provide manufacturer and/or fabricator certifications that all steel and iron products and manufacturing processes of the steel and iron material are compliant with Buy America requirements unless noted otherwise in this special provision.

Examples of products that are subject to Buy America coverage include, but are not limited to, the following:

- A. Steel or iron products used in pavements, bridges, tunnels, or other structures, which include, but are not limited to, the following: fabricated structural steel, hot or cold rolled structural steel shapes, reinforcing steel, piling, high strength bolts, anchor bolts, dowel bars, permanently incorporated sheet piling, bridge bearings, cable wire/strand, pre-stressing/post-tensioning wire, motor/machinery brakes and other equipment for moveable structures.
- B. Guardrail, guardrail posts, end sections, terminals, cable guardrail.
- C. Steel fencing material, fence posts.
- D. Steel or iron pipe, conduit, grates, manhole covers, risers.
- E. Mast arms, poles, standards, trusses, supporting structural members for signs, luminaires, or traffic control systems.
- F. Steel or iron components of precast concrete products, such as reinforcing steel, wire mesh and pre-stressing or post-tensioning strands or cables.
- G. Left-in-place structural steel formwork, falsework, and earth retaining system elements.

Manufactured products that are predominantly (90 percent or greater) steel and/or iron

must comply with this special provision.

Provide step certification for all steel and iron related pay items, materials, products, and components as specified on the Department website. The Department will maintain a list of these pay items, materials, products, and/or components on the following website.

<https://www.michigan.gov/mdot/-/media/Project/Websites/MDOT/Business/Construction/Standard-Specifications-Construction/CFS-Reference/BuyAmericaStepCertPayItems.pdf>

Step certification is defined as the certification by the respective manufacturer or fabricator for their specific process (step) that the product, material, or component was fabricated, manufactured, and/or processed in the United States. The step certification documentation for these pre-defined pay items, materials, products, and/or components is to be submitted to the Engineer in a package covering each step prior to delivery or concurrent with material delivery on-site. Approved certification is required prior to incorporation of the materials into the project.

The above requirements do not preclude a minimal use of foreign steel and iron, provided the total invoice cost of foreign steel and iron permanently incorporated into the project does not exceed 0.1 percent of the total contract amount or \$2,500 whichever is greater. The Department defines the total invoice cost as the total value of the foreign steel and iron materials delivered to the project. The Department defines the total contract amount to be the original contract amount at time of award plus any cost increases during construction with the exception of incentive payments.

MDOT/Consultant fabrication facility inspectors are not responsible for approving the incorporation of foreign steel/iron prior to fabrication. It is the responsibility of the fabricator to notify and coordinate with the Contractor for all potential inclusion of foreign steel/iron in fabricated products.

For each item subject to meeting Buy America requirements, that doesn't fully meet Buy America requirements, the following documentation must be provided by the Contractor to verify the foreign steel value. This documentation is to be placed in the project files to ensure that the threshold is not exceeded:

- Pay Item,
- Description of associated foreign steel/iron material, product, or component,
- Cost of associated foreign steel/iron material, product, or component, and
- Cumulative list of all non-compliant Buy America items with the total dollar amount.

The minimal use of foreign steel/iron under the minimal usage amount will be approved by the Engineer. The use of foreign steel/iron under the minimal usage amount does not need to be approved by the FHWA. This amount is not considered a waiver to the Buy America requirements. The Contractor must ensure that the minimal usage amount is not exceeded.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SOURCE OF CONSTRUCTION MATERIALS

CFS:JJG

1 of 1

APPR:LLR:KAS:10-13-22
FHWA:APPR:10-16-22

Add Subsection 105.11 after subsection 105.10, on page 1-60 of the Standard Specifications for Construction:

105.11. Source of Construction Materials. Provide construction materials for permanent incorporation into the work that were produced in the United States.

The final manufacturing process for construction materials and the immediately preceding manufacturing stage for construction materials must occur within the United States.

Construction materials include an article, material, or supply that is or consists primarily of the following:

- A. Non-ferrous metals;
- B. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- C. Glass (including optic glass);
- D. Lumber; or
- E. Drywall.

Items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed (including steel/iron) through a manufacturing process are treated as manufactured products, rather than as construction materials.

Manufactured products that are predominantly (90 percent or greater) steel and/or iron must comply with 20SP-105A - Source of Steel and Iron (Buy America) and are not subject to this special provision. All other manufactured products are exempt from this special provision.

Cement and cementitious materials; asphalt cements; aggregates such as stone, sand, or gravel; and aggregate binding agents or additives are not subject to this special provision.

Provide documented certification that the applicable construction materials are produced and/or manufactured in the United States per this special provision.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
E-VERIFY

CSD:LFS

1 of 1

APPR:JJG:RJC:04-10-20
FHWA:APPR:04-13-20

a. Description. E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring all Contractors, and Subcontractors, to verify that new employees are legally present and authorized to work in the United States, using the E-Verify System.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: <http://www.dhs.gov/E-Verify>.

It is the responsibility of the Contractor to include this specification in all tiers of subcontracts.

Verification of the Contractors' use of E-verify will be a part of the random review of subcontract information performed by the Department.

The required use of the E-Verify system will not be paid for separately as part of the contract but is considered included in the costs for other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LABOR COMPLIANCE

COS:AS

1 of 3

APPR:JG:RJC:03-24-20
FHWA:APPR:03-30-20

a. Description. Ensure all levels of contracting (prime, sub, sub-sub, etc.) comply with all labor compliance requirements in this contract. The Contractor is responsible for subcontractors and lower tier subcontractor labor compliance. Job site poster requirements apply to state and federally funded projects. All Contractors must insert this special provision in each subcontract and further require its inclusion in lower tier subcontracts for federal prevailing wage projects.

b. Requirements.

1. Jobsite Posters. All jobsite posters and employment notices required by State and Federal regulations and the contract are to be posted on the jobsite in a conspicuous area prior to the commencement of work. Ensure jobsite postings are accessible at all times.

2. Federal Prevailing Wage Projects. The Davis-Bacon Related Acts apply to all Contractors, and subcontractors (all tiers) performing work on federally funded or assisted construction contracts where the total construction contract price is in excess of \$2,000. Contractors and subcontractors are required to comply with *29 Code of Federal Regulations Parts 1, 3, and 5*.

The Contractor must advise subcontractors of the requirement to pay the prevailing wage rates prior to commencement of work and that all employees must cooperate during wage rate interviews.

A. Certified Payroll Submittal Requirements. Contractors (all tiers) must submit their certified payrolls to the prime Contractor. The submitted payrolls must accurately and completely include all information required on MDOT Form CP-347, Certified Payroll. The required weekly payroll information may be submitted on a contractor generated form but must contain all information required on Form CP-347. The first certified payroll is to be received by the Engineer within 3 weeks from the week ending in which work is performed. The 3 week period is to allow for the processing and review of the certified payrolls by the prime Contractor. The review must ensure the certified payroll is complete and contains all information required on Form CP-347. Form CP-347 is available on the MDOT forms webpage. Certified payroll information must meet the requirements of this special provision unless the contract requires payroll to be submitted through the prevailing wage and labor compliance (PWLC) system. Payroll submitted via the PWLC system must be entered into the system, certified, and approved by the prime Contractor to be considered received by the Department.

Labor compliance issues must be resolved within 60 calendar days of receiving the Departments first documented notice. The 60-day requirement may be extended based on documented mutual agreement between the Department and the Contractor.

(1) Fringe Benefit Statements. Contractors making payments or incurring cost to provide bona fide benefits must submit an hourly breakdown of fringe benefits paid each worker, or work classification where applicable, that must accompany the first certified payroll where fringe benefits are credited towards the prevailing wage. The Contractor must update these documents as necessary to ensure they are current throughout the working life of the contract. Failure to submit or maintain the required fringe benefit statement will constitute a payroll deficiency.

(2) Delinquent Payroll. Certified payrolls not submitted per subsection b.2.A of this special provision will be considered delinquent.

(3) Deficient Payroll. Certified payrolls that are found to be incomplete, inaccurate, or inconsistent with other project records are considered deficient.

(4) Non-compliance Damages. A Contractor found to be in non-compliance with the requirements of this special provision will be assessed non-compliance damages listed in Table 1, proportional to the value of their work on the contract (including subcontract, purchase order (P.O.) or invoice amount).

Table 1: Schedule of Non-Compliance Damages

Contract/Subcontract/P.O./Invoice Amount (a)	Non-compliance damages per calendar day
\$0 to 49,999	\$200
50,000 to 99,999	400
100,000 to 499,999	600
500,000 to 999,999	900
1,000,000 to 1,999,999	1,300
2,000,000 to 4,999,999	1,550
5,000,000 to 9,999,999	2,650
10,000,000 and above	3,000
Trucker	\$200
a. "Contract" amount if offending contractor is the prime contractor. "Subcontract/P.O./Invoice" amount if offending contractor is a subcontractor/vendor.	

B. Record Keeping. Maintain payrolls and basic records relating thereto (i.e. employee names, occupation, hours worked, W2, canceled checks, bank statements, etc.) by all levels of contractors during the course of work and retain for a 3-year period from the date of final estimate for all employees working on the site of work. Make these records available for inspection, copying, or transcription by the Department or its representative.

C. Short Duration Projects. The following modifications apply if the project is less than 75 calendar days in duration.

(1) Submittal Requirements. On short duration projects the first certified payroll is to be received by the Engineer within 2 weeks from the week ending in which work is

performed. The 2-week period is to allow for the processing and review of the certified payrolls by the Contractor. The 2-week period allows the first estimate to be paid assuming the Contractor will submit certified payrolls in a timely manner. Ensure subsequent certified payroll submissions are made weekly. Payroll submissions failing to meet the above requirements will be considered delinquent.

Labor compliance issues are to be resolved within 30 days after receiving the Department's first documented notice. The 30-day requirement may be extended based on documented mutual agreement between the Department and the Contractor.

- c. Materials.** None specified.
- d. Construction.** None specified.
- e. Measurement and Payment.** Payment for compliance with this special provision will not be made separately. Payment will be considered as part of all other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EASTERN MASSASAUGA RATTLESNAKE

ENV:JDG

1 of 2

APPR:DWS:MJO:03-18-20
FHWA:APPR:03-18-20

a. Description. Contractors are advised that the project area has a known population of the Eastern Massasauga Rattlesnake or is within its known range. This species is listed as federally threatened under the U. S. Endangered Species Act of 1973 (Act). Taking (killing, harming, or disturbing in any manner) of Eastern Massasauga Rattlesnake without a federal permit from the U.S. Fish and Wildlife Service is prohibited under federal law. The Act provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. The Contractor is liable to the Department for any penalties imposed for violations to the Act due to the Contractor's failure to comply with this special provision. Fines and penalties range up to \$50,000 and 1 year in prison. Violation of any requirement listed below can lead to an immediate work stoppage in Eastern Massasauga Rattlesnake habitat. FHWA is required under federal law to assure MDOT is compliant with these provisions or risk losing federal funding for the project. This special provision addresses education, notification and intentional take requirements of the Contractor and their workers to protect the Eastern Massasauga Rattlesnake as required under the Act.

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

1. Prior to construction, all Contractor staff working onsite must read the attached fact sheet (2 of 2). The purpose of the fact sheet is to provide the Contractor easy identification tips, notification that a venomous snake may be onsite, and raise awareness regarding its protected legal status.

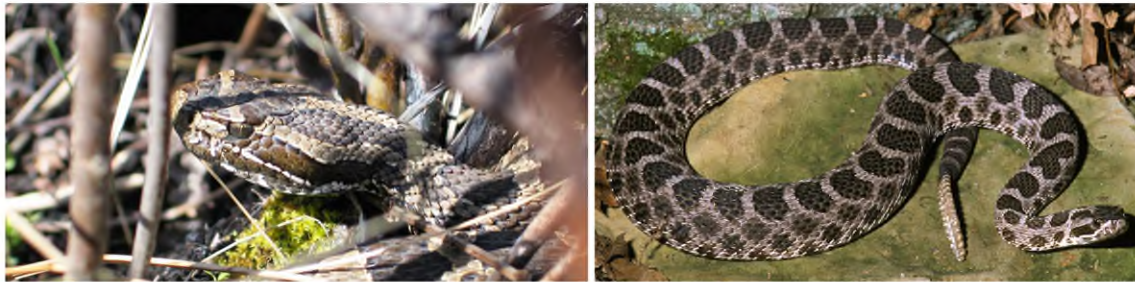
2. Immediately report any possible Eastern Massasauga Rattlesnake sightings to the Engineer.

3. Intentionally 'take' is prohibited.

d. Measurement and Payment. All costs associated with complying with this special provision will not be paid for separately but will be considered to have been included in other pay items in the contract.

Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)

Protected as federally threatened



Photos courtesy of the Michigan Department of Natural Resources and Michigan State University

This species is suspected to occur at or near the work site. Please have staff read the following information.

What Does an Eastern Massasauga Rattlesnake Look Like?

The eastern massasauga rattlesnake is a thick-bodied and short venomous snake. Adults typically measure 18 to 30 inches long. This species is gray to grayish-brown with dark blotches bordered by white down the middle of its back. The head is thick and triangular and has an obvious neck. Like many venomous snakes, the massasauga has vertical slitted pupils like a cat and heat sensing pits below the eyes. A rattle is present on the tail that "buzzes" as a warning signal, although they may strike without rattling. This is the only rattlesnake in Michigan.

Where Does It Live?

These snakes prefer wet areas, such as marshes, wet prairies, wet woods, and along rivers and lakes. They also use adjacent upland during parts of the year, especially in the summer. They hibernate during the winter in crayfish burrows, under logs and tree roots, and in small mammal burrows.

What Should You Do If You See a Massasauga Rattlesnake?

Massasaugas are shy and try to avoid confrontation but that does not mean they won't bite to protect themselves. Never try to handle, chase, provoke, or threaten a snake. When in potential snake habitat, wear thick boots that cover your ankles, long pants, and do not reach into thickets or under logs. If you hear the buzzing of a rattle stay calm and back away from the sound slowly. The snake will leave if you give it space.

If an eastern massasauga rattlesnake is found at a Michigan Department of Transportation (MDOT) project, the construction engineer should be contacted immediately. The construction engineer should then contact the MDOT ecologist at 517-335-2633.

How is the Massasauga Protected Under the Law?

The eastern massasauga rattlesnake is protected under federal law by the Endangered Species Act. This status prohibits harming or harassing the species along with policies to protect the species habitat.

For More Information:

60-Second Snakes: The Eastern Massasauga Rattlesnake
www.youtube.com/watch?v=-PFnXe_e02w

Photos

http://animaldiversity.org/site/accounts/pictures/Sistrurus_catenatus.html

General Information

<http://mnfi.anr.msu.edu/emr>

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
UTILIZING DISADVANTAGED BUSINESS ENTERPRISE TRUCKING VENDORS

CSD:LFS

1 of 1

APPR:JJG:MRB:11-18-21
FHWA:APPR:11-18-21

After the fifth paragraph of subsection 108.01, Subcontracting of Contract Work, of the Standard Specifications for Construction add the following:

The Contractor must provide a subcontract to the Engineer for each DBE trucking company on the project. The subcontract must be provided in advance of the work or no later than 15 calendar days of the DBE trucking company commencing work on the project.

The use of DBE trucking vendors does not apply to the limitation of subcontracting.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PROMPT PAYMENT

CFS:JGG

1 of 4

APPR:LFS:DBP:03-27-20
FHWA:APPR:03-30-20

Add the following subsection to section 109, of the Standard Specifications for Construction:

109.08 Prompt Payment.

A. Definitions.

Lower-tier subcontract. An agreement between a subcontractor of any tier and any individual or legal entity to perform a part of the subcontract work.

Lower-tier subcontractor. The individual or legal entity that performs part of the subcontract work through a lower-tier subcontract with a subcontractor.

Supplier. The individual or legal entity that agrees to provide materials or services to the prime Contractor, a subcontractor, or a lower-tier subcontractor for the performance of their contract work.

Sworn Statement. A written verification under oath reflecting all persons or entities, which have furnished labor, equipment, services or materials to a subcontractor or lower-tier subcontractor for performance of work on the project. The written verification includes union fringe benefit funds, original contract amount, current amount due, amounts paid to date and balance to finish the work for each person or entity.

Waiver of Lien. A written release and waiver of any claim or right to payment for payments actually received for labor, equipment, services or materials furnished for performance of work on the project.

The sworn statement and waiver of lien documents are used by the prime Contractor and its subcontractors for verifying payments made to lower-tier subcontractors/suppliers and are not to be submitted to the Engineer unless requested as an aid in determining an alleged prompt payment violation. These documents can be found at the following website.

<https://mdotjboss.state.mi.us/webforms/WebFormsHome.htm>

B. Progress Payments. For the first payment, or for a one time payment, the prime Contractor agrees to pay each subcontractor for the work associated with their subcontract no later than 10 calendar days from the date the prime Contractor receives payment from the Department.

For the second and subsequent payments, the prime Contractor agrees to pay each

subcontractor for the work associated with their subcontract no later than 10 calendar days from the date the prime Contractor receives payment from the Department.

The Contractor is required to provide payment information for previous payments made to all first tier subcontractors and all DBE companies (sub-subcontractors, suppliers, truckers, etc.) at any tier before the Engineer will release the third and subsequent estimates. For all subsequent progress pay estimates if 1) the Engineer payment does not include any first tier subcontractors or any DBE company payments at any tier, and 2) the previously submitted payment reporting information remains unchanged, then payment reporting in the system is not required. Reporting is required when the prime Contractor makes payments to any first tier subcontractors and any DBE companies at any tier. The payment information is provided through submittal of the information via the 2124A reporting system (MERS). System information can be found at the following web link.

<https://milogin.michigan.gov/eai/login/authenticate?URL=/>

The prime Contractor must bring any concerns about the satisfactory completion of subcontractor or lower-tier subcontractor work items, to the Engineer's attention as soon as the concern is discovered. If the work meets the requirements of satisfactory completion and the prime Contractor has been paid for that work, the Engineer must determine whether:

1. The prime Contractor has demonstrated a valid reason for withholding payment from the subcontractor or supplier, or
2. The subcontractor has demonstrated a valid reason for withholding payment from the lower-tier subcontractor or supplier.

If the Engineer determines the reason for withholding payment is valid, the Engineer will process a negative estimate to withdraw the amount involved in the complaint. If payment has not been made for the work related to the complaint, the Engineer will not include those items of work on an estimate until the issue has been resolved.

The prime Contractor remains responsible to make prompt payments on this project to their subcontractors and suppliers except as noted in subsection 109.08.D of this special provision, even if the prime Contractor is in violation of other contractual obligations and the Department is withholding payment from the prime Contractor for those violations.

The prime Contractor must include language in all subcontracts that the Department prohibits prime Contractors from holding retainage from subcontractors. All provisions of this prompt payment subsection apply to all subcontracts, lower-tier subcontracts, and supplier agreements and must be included in each subcontract for the contract, including all lower-tier subcontracts and agreements.

This prompt payment provision is a requirement of 49 CFR 26.29 and does not confer third-party beneficiary rights or other direct rights to a subcontractor against the Department. This provision applies to both DBE and non-DBE subcontractors/suppliers at all tiers.

C. Satisfactory Completion. Progress and partial payments for contract work are issued based on the satisfactory completion of work. Satisfactory completion, for purposes of this prompt payment provision, is defined as:

1. Upon preliminary review, the Engineer finds the work completed in accordance with the contract, plans, and specifications; and,
2. Required documentation, including material certifications, payrolls, submission of 2124A, etc., has been received and reviewed and found to be acceptable by the Engineer; and,
3. Required subcontractor sworn statements and waivers of lien have been provided to the prime Contractor. The prime Contractor must provide notice to the Engineer if sworn statements and waivers of lien have not been received for completed work.

The Engineer will determine if the work meets the standards of satisfactory completion.

D. Less than full payment release. The Engineer may give written approval to:

1. Delay or postpone payment from the time frames specified herein,
2. Process partial payment from the prime Contractor to a subcontractor or supplier,
3. Process partial payment from a subcontractor to a lower-tier subcontractor or supplier.

The unpaid portion will be held by the Department.

The parties may initiate whatever dispute resolution procedure is specified in their agreement or is available under Michigan law. If dispute resolution or litigation is selected, the actions by both parties must proceed in a timely manner. The result of the dispute resolution proceeding or litigation must be provided to the Engineer promptly upon the conclusion of the proceeding. The Engineer will release the disputed payment being held by the Department in accordance with the outcome of the proceedings.

E. Non-Payment Claims. The prime Contractor, subcontractor, lower-tier subcontractor or supplier must notify the alleged offending party in writing of any prompt payment violations within 30 calendar days of the date the payment was to be received. Copies of the notifications must be provided to the Engineer and the prime Contractor (only if the prime Contractor is not the offending party).

The alleged offending party must respond in writing to the claimant within 10 calendar days of receipt of the notification of failure to meet prompt payment provisions. Provide copies of the response to the Engineer, the prime Contractor (only if the prime Contractor is not the offending party), and the Engineer of Construction Field Services. The prime Contractor, subcontractor, or supplier must also provide the required sworn statements and waivers of lien from the affected subcontractor or supplier to the Engineer within 10 days of receipt of the notification. The Department will consider the failure of the alleged offending party to respond to the notification from the claimant as an admission of the prompt pay violation which may result in sanctions.

The Engineer will review the written notice and response and will verify in writing if there is a valid prompt pay violation.

Independent of all procedures and requirements in this special provision the non-payment claimant has the additional option of submitting a lien claim to the MDOT Contract Services Division. MDOT will notify the project surety of the non-payment issue. It is the responsibility

of the surety to ensure that all legitimately due payments are made. The submission of a lien claim will not nullify or affect any other requirements, obligations or procedures in this special provision.

F. Remedies. When the Engineer verifies a prompt payment violation, the prime Contractor within 5 days must propose one or a combination of any of the following actions items for review and approval by the Engineer:

1. Issue payment to the subcontractor.
2. Issue payments to a subcontractor in the form of joint checks to the subcontractor and the subcontractor's lower-tier subcontractors and/or suppliers.
3. Issue payment directly to the subcontractor's lower-tier subcontractors or suppliers.
4. Request a negative estimate to withdraw the amount confirmed in the prompt payment violation.

If the prime Contractor fails to submit a timely remedy request or obtain an approved course of action within the 5 day time period, the Engineer will direct a course of action or issue a negative estimate to withdraw the amount confirmed in the prompt payment violation.

If the prime Contractor fails to fulfill the approved or directed course of action the Engineer will impose sanctions until such time as the approved or directed course of action is completed.

Any payments to a subcontractor's lower-tier subcontractor or supplier will be issued in the amounts reflected upon the subcontractor's sworn statements or in amounts independently verified by the Engineer as being due the subcontractor's lower-tier subcontractors and suppliers for work completed. Payments to a lower-tier subcontractor or supplier will be considered payment to the subcontractor directly so that payment for the same work cannot be claimed.

Any other use of joint checks must follow current Department procedures.

G. Sanctions. Failure to comply with any of the prompt payment requirements by the prime Contractor, subcontractor, lower-tier subcontractor, or supplier may result in sanctions against the offending party. These sanctions may include, but are not limited to: withholding of estimates on projects where prompt payment violations are confirmed; reduction or removal of prequalification; and/or suspension of bidding privileges.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**NON-COMPLIANCE WITH SOIL EROSION AND SEDIMENTATION CONTROL
REQUIREMENTS**

COS:DMG

1 of 2

APPR:TWK:HLZ:02-26-20
FHWA:APPR:03-02-20

a. Description. This special provision establishes negative adjustments related to the failure to properly install and maintain soil erosion and sedimentation control (SESC) measures and the conditions under which these adjustments will be determined and applied. Nothing in this special provision modifies section 107 of the Standard Specifications for Construction.

Delays to the project as a result of the Contractor conducting corrective actions for SESC measures do not constitute a valid reason for an extension of time.

Ensure deficiencies with SESC measures are corrected in the time frame stated herein. For those deficiencies not corrected within the stated time frame, the Engineer will make a negative adjustment to the contract as stated herein.

b. Materials. None specified.

c. Construction. Install all temporary erosion control measures identified on the plans and as directed by the Engineer for an impacted area of the project prior to the start of any earth disturbance including, but not limited to, clearing, grading and excavation in that area. The Engineer will inspect these measures every 7 days and within 24 hours after a precipitation event that results in a discharge from the site. Deficiencies will be documented on the National Pollutant Discharge Elimination System and SESC Inspection Report (MDOT Form 1126).

If at any time during the project, including the time during the seasonal suspension, the Engineer documents deficient SESC measures, the Engineer will provide written notification with instructions for corrective action to the Contractor. The time frame for completion of these corrective actions will be specified in the notification and will be discussed with the Contractor as necessary.

Deficiencies are defined as one or more of the following:

1. Failure to install or construct SESC measures shown on the plans or as directed by the Engineer;
2. Failure to maintain the measures;
3. Failure to conduct earth change activities in a manner consistent with all applicable environmental permit requirements;
4. Failure to comply with the area limitations or the time limitations stated in subsections 208.03.A and 208.03.B, respectively, of the Standard Specifications for Construction.

SESC deficiencies are either emergency or non-emergency and the time frame for corrective action is determined accordingly. Sediment leaving the right-of-way or entering a drainage structure, waters of the state, or loss of support of the roadbed impacting public safety constitutes an emergency and corrective actions must be completed within 24 hours of notification, including weekends or holidays regardless of whether the Contractor is working or not. Non-emergency deficiencies must be corrected within 5 calendar days of notification.

For those emergency corrective actions not completed within 24 hours of notification, the Contractor will be assessed \$100.00 per hour for every hour the deficiency remains uncorrected after the initial 24 hours of notification. For those non-emergency corrective actions not completed within 5 calendar days, the Contractor will be assessed \$500.00 per day for every day, or part thereof, the deficiency remains uncorrected after the initial 5 days of notification.

If it is not practicable to complete the non-emergency corrective actions within 5 calendar days, the Contractor must document the reasons and propose a corrective action plan to the Engineer within 5 days of notification. The corrective action plan must contain the Contractor's course of action and a time frame for completion. If the reasons and the corrective action plan are acceptable to the Engineer, the Contractor will be allowed to proceed with the plan as proposed without incurring a negative adjustment. If the approved corrective action plan is not completed as proposed, the Contractor will be assessed \$1000.00 per calendar day for every day, or part thereof, the deficiency remains uncorrected after the time frame is exceeded in the approved corrective action plan.

Correct, in the timeframe stated herein, all other emergency or non-emergency SESC deficiencies documented anywhere else on the project during completion of the approved corrective action plan.

d. Measurement and Payment. The Engineer will make the necessary monetary adjustment to the contract amount based on the length of time the Contractor allows the deficiencies to remain uncorrected after the time allowance stated herein and as described to cover any costs incurred by the Department as a result of SESC violations.

All costs associated with corrective actions required due to the Contractor's failure to properly install or maintain SESC measures on this project will be borne by the Contractor.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EROSION CONTROL, INLET PROTECTION, FABRIC DROP

COS:DMG

1 of 2

APPR:TWK:CP:03-11-20
FHWA:APPR:03-13-20

a. Description. This work consists of furnishing and installing acceptable alternatives to inlet protection devices (devices) listed in the *Soil Erosion and Sedimentation Control Manual* when the pay item Erosion Control, Inlet Protection, Fabric Drop is included in the contract.

This work consists of furnishing, installing, maintaining, disposing of collected material and removing devices at the locations shown on the plans or as directed by the Engineer.

b. Materials. The following devices are approved for use as acceptable alternatives:

1. Siltsack Type B, Regular Flow, by ACF Environmental, Inc.
2. Inlet Pro Sediment Bag, Standard Flow, with optional foam deflector by Hanes Geo Components.
3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.
4. Basin Bag, Regular Flow by CSI Geoturf.
5. Flexstorm Catch-It and Flexstorm Pure used with filter bag types FX, FX+, FXO, PC, PC+ or IL.

Ensure provided devices are sized appropriately for the drainage structures in which they will be installed.

c. Construction. Install, maintain and remove the devices in accordance with the manufacturer's guidelines. Remove material collected by the devices in accordance with the manufacturer's guidelines or as directed by the Engineer.

Dispose of collected material in accordance with subsection 205.03.P of the Standard Specifications for Construction. Those devices that are no longer needed and have been removed may be reused elsewhere on the project as approved by the Engineer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Erosion Control, Inlet Protection, Fabric Drop.....	Each

Erosion Control, Inlet Protection, Fabric Drop will be paid for as one each for each time the alternate device listed herein is installed, maintained, and removed at a separate location within the project limits.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

CFS:TRC

1 of 1

APPR:JWB:KPK:02-19-20
FHWA:APPR:02-19-20

a. Description. This work consists of the Contractor taking samples of the asphalt binder and delivering the samples to the Engineer prior to incorporation into the hot mix asphalt mixture.

b. Materials. For informational purposes, original samples of asphalt binder will be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The frequency of sampling will be determined by the Engineer.

The Contractor must certify in writing that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved supplier as stated in the *Material Quality Assurance Procedures Manual*.

c. Construction. None specified.

d. Measurement and Payment. The cost of obtaining and delivering the samples to the Engineer will be included in the hot mix asphalt (HMA) pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 2

APPR:JWB:CJB:02-26-20
FHWA:APPR:03-02-20

Add the following subsection to subsection 501.02.A.2 of the Standard Specifications for Construction.

- c. **Reclaimed Asphalt Pavement (RAP) and Binder Grade Selection.** The method for determining the binder grade in HMA mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to HMA mixtures with the following exception: Superpave mixture types EML, EML High Stress, EMH, EMH High Stress, and EH, EH High Stress used as leveling or top course must be limited to a maximum of 27 percent RAP binder by weight of the total binder in the mixture.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures in accordance with contract.

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.
- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

Ensure the required asphalt binder grade is at least one grade lower for the low temperature than the design binder grade required for the specified project mixture type. Lowering the high temperature of the binder one grade is optional. For example, if the design binder grade for the mixture type is PG 58-22, the required grade for the binder in the HMA mixture containing RAP would be a PG 52-28 or a PG 58-28.

For Marshall Mixes, no binder grade change will be required when Average Daily Traffic (ADT) is above 7000 or Commercial Average Daily Traffic (CADT) is above 700. No binder grade change will occur for EL mixtures used as leveling or top course.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. Supply the blending chart and the RAP test data used in determining the binder selection according to *AASHTO M323*.

- **Tier 3 ($\geq 28\%$ RAP binder by weight of the total binder in the mixture).** The binder grade for the asphalt binder is selected using a blending chart for high and low temperatures per *AASHTO M323*. Supply the blending chart and the RAP test data

used in determining the binder selection.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 7

APPR:CJB:JWB:02-26-20
FHWA:APPR:03-13-20

a. Description. This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except where modified herein.

b. Materials. Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50	
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).						
b. Deviation from JMF.						

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

c. Construction. Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified

otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. At the pre-production or preconstruction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling loads.

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day's paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

Ensure daily test samples are obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the pre-production or preconstruction meeting, the Engineer and Contractor will collectively determine the test method for measuring asphalt content (AC) using *MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method)* or *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual and the Michigan Quality Assurance Procedures Manual*, and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory (AMRL)* accredited for *AASHTO T30* or *T27*, and *AASHTO T164* or *T308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendar days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide QA test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from *MTM 319*. Gradation (*ASTM D5444*) and Crushed particle content (*MTM 117*) based on aggregate from *MTM 319*. The incineration temperature will be established

at the pre-production meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or preconstruction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

Option 1 - Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

Option 2 - Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and

meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

Table 2: Minimum Number of Rollers Recommended Based on Placement Rate

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.
b. The compaction roller may be used as the finish roller also.

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Ensure each required roller is 8 tons minimum in weight unless otherwise approved by the Engineer.

Ensure the initial breakdown roller is capable of vibratory compaction and is a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 miles per hour (mph) or 4.5 feet per second. Ensure all compaction rollers complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

d. Measurement and Payment. The completed work, as described, will be measured and paid for using applicable pay items as described in subsection 501.04 of the Standard Specifications for Construction, or the contract, except as modified below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt

of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractor's QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

Table 3: Penalty Per Parameter

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of-Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
No	N/A	None
Yes	No	None
	Yes	Outside Range 1 but not Range 2: decrease by 10% Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract base price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

Table 4: Calculating Total Price Adjustment

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 and Range 1	20%
	Range 1 and Range 2	35%
	Range 2 and Range 2	50%
Three	Range 1, Range 1 and Range 1	20%
	Range 1, Range 1 and Range 2	35%
	Range 1, Range 2 and Range 2	50%
	Range 2, Range 2 and Range 2	50%

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: _____

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
BACKFILL FOR CONCRETE CURB, GUTTER, AND DIVIDERS

CFS:JJG

1 of 1

APPR:DMG:DBP:02-16-23
FHWA:APPR:02-21-23

Delete subsection 802.04.H, on page 8-7 of the Standard Specifications for Construction, in its entirety and replace with the following:

- H. **Backfill.** Unless the contract includes separate pay items for backfill, the unit price for other items of work will include the cost of backfill.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
GUARDRAIL APPROACH TERMINAL, TYPE 2M

GCB:CT

1 of 3

APPR:CAL:DBP:04-02-20
FHWA:APPR:04-03-20

a. Description. This work consists of furnishing and delivering a tangent *Manual for Assessing Safety Hardware* (MASH), Test Level 3 (TL-3) compliant guardrail approach terminal (Type 2M), selected from those listed herein, to the job site; submitting detailed drawings and installation manuals for the selected terminal(s) to the Engineer; and installing the device(s) as shown on the plans or as directed by the Engineer. Complete this work in accordance with manufacturer's details and specifications, and this special provision.

b. Materials. Select from the following guardrail approach terminals.

1. MSKT, manufactured by Road Systems, Inc.
2. Soft-Stop, manufactured by Trinity Highway Products, LLC.
3. MAX-Tension, manufactured by Lindsay Transportation Solutions, Inc.

Ensure all posts within the terminal limits are made of steel. Provide materials for the selected terminal(s) meeting manufacturer's specifications and the requirements of this special provision. Ensure the selected guardrail terminal meets MASH, TL-3 criteria and has an FHWA federal aid eligibility letter.

Provide detailed drawings of the selected guardrail approach terminal(s) prepared by the respective guardrail approach terminal manufacturer(s). The drawings must contain details depicting the terminal attached to MDOT Type MGS-8 guardrail, detailed in Standard Plan R-60-Series.

Provide materials meeting the requirements of subsection 807.02 of the Standard Specifications for Construction for transitions required for connecting Guardrail Approach Terminal, Type 2M to Type B or Type T guardrail, as depicted in Standard Plan R-60-Series.

Provide installation and maintenance manuals for the selected guardrail approach terminal(s) prepared by the respective guardrail approach terminal manufacturer(s).

Provide high intensity adhesive reflective sheeting for placement on the terminal's impact head. The reflective sheeting must meet the stripe dimensions, colors, and pattern, based on traffic conditions, as shown on Standard Plan R-62-Series. The three-inch stripes, alternating black and yellow, on the reflective sheeting must slope downward at an angle of 45 degrees toward the roadway. The yellow stripes on the reflective sheeting must meet *ASTM D4956* specifications for Type XI retroreflective sheeting and must meet the requirements of Section 2C.64 and 2C.65 of the *MMUTCD*.

c. Construction. At least 14 days prior to terminal installation, provide the Engineer one electronic copy of the detailed drawings, installation manuals, and maintenance manuals for the selected guardrail approach terminal(s). Before terminal installation commences, ensure all questions, comments, or concerns raised by the Engineer concerning the detailed drawings, installation manuals, and/or maintenance manuals are addressed.

The Contractor must ensure that the guardrail terminal manufacturer is available to consult, by telephone or e-mail, with the Engineer, the Engineer’s designated representative, at no additional cost to the Department. Consultation will encompass the installation of guardrail terminals. Provide the manufacturer’s name, telephone number, and e-mail address to the Engineer prior to terminal installation. Provide responses from the manufacturer to any telephone or e-mail inquiries from the Engineer, the Engineer’s designated representative, within 2 working days.

Provide staff that have been trained by the respective guardrail terminal manufacturer to install the guardrail terminals utilized on the project. Training materials and course content for guardrail installation crew training will be as determined by the respective manufacturer. Provide manufacturer issued and dated training certificates for all staff on the guardrail installation crew. Training must have occurred within the previous 3 years. Ensure training certificates are provided to the Engineer 14 days before guardrail installation work commences. Provide updated training certificates no later than 48 hours after personnel changes occur.

Construct guardrail terminals in accordance with section 807 of the Standard Specifications for Construction, the manufacturer’s installation manual(s), and the detailed drawings provided by the manufacturer.

Construct transitions for connecting Guardrail Approach Terminal, Type 2M to Type B or Type T guardrail in accordance with the appropriate details on Standard Plan R-60-Series and section 807 of the Standard Specifications for Construction.

Do not attach reflectors or other attachments within the limits of the guardrail approach terminal. Attach guardrail reflectors within the limits of transition sections, detailed on Standard Plan R-60-Series, when connecting Guardrail Approach Terminal, Type 2M to guardrail Type B or Type T.

Unless otherwise specified by the Engineer, install guardrail approach terminal with a 1 foot-0 inch offset, in relation to the rear of the terminal, measured at the nose (front) of the terminal.

Completely cover the portion of the impact head assembly facing traffic with high intensity adhesive reflective sheeting meeting the requirements of this special provision.

Provide the guardrail terminal manufacturer’s installation checklist, completed and signed by the Contractor, for each individual guardrail terminal installed. Upon completion of guardrail work, provide written certification from the Contractor that all guardrail terminal installations have been installed per the contract and the manufacturers’ specifications and guidelines.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Guardrail Approach Terminal, Type 2M.....	Each

Guardrail Approach Terminal, Type 2M includes furnishing and installing a guardrail approach terminal meeting the requirements of this special provision.

Payment for **Guardrail Approach Terminal, Type 2M** includes all materials, labor, and equipment within the length of each terminal, as defined in subsections d.1, d.2, and d.3 of this special provision, and also includes payment for all materials, labor, and equipment required to construct a transition section, per Standard Plan R-60-Series, for connecting Guardrail Approach Terminal, Type 2M to guardrail Type B or Type T.

The lengths specified in subsections d.1, d.2, and d.3 of this special provision do not include a transition section, per Standard Plan R-60-Series, for connecting Guardrail Approach Terminal, Type 2M to guardrail Type B or Type T.

1. MSKT. Overall length is 59 feet, 4½ inches, measured from Post 1.
2. Soft-Stop. Overall length is 50 feet, 9½ inches, measured from Post 0.
3. MAX-Tension. Overall length is 55 feet, ½ inch, measured from the soil anchor.

If the pay item lengths defined in this special provision conflict with the pay item lengths specified in the manufacturer's details and/or specifications, the pay item lengths defined in this special provision will take precedence.

Payment for all consultations between the manufacturer and the Engineer, the Engineer's designated representative, and/or Contractor, preparing and submitting detailed drawings, installation manuals, operation/maintenance manuals, and other required documentation will be included as part of this pay item, and will not be paid for separately.

The required reflective sheeting on the impact head is included as part of this pay item, and will not be paid for separately.

Unless otherwise specified by the Engineer, payment will be made after guardrail terminal installation has been completed and all required documentation has been submitted to the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
GUARDRAIL LONG SPAN

GCB:CT

1 of 1

APPR:CAL:NAP:04-16-20
FHWA:APPR:04-23-20

a. Description. This work consists of constructing a guardrail long span, of specified detail, as detailed on Standard Plan R-72 Series.

b. Materials. Provide materials in accordance with section 807 of the Standard Specifications of Construction.

c. Construction. Construct the guardrail long span, of specified detail, in accordance with section 807 of the Standard Specifications for Construction and as detailed on Standard Plan R-72 Series.

Ensure guardrail beam elements are installed level and in line with the adjacent guardrail sections. Clear span sections that appear to be kinked, as determined by the Engineer, in relation to adjacent guardrail will be rejected and must be corrected at no additional cost to the Department.

Install a splice bolt in each splice bolt slot when splicing guardrail panels. Omitting splice bolts is prohibited. Ensure guardrail panels and offset blocks are properly bolted to all guardrail posts.

Any post bolts or splice bolts that are not fully engaged with a nut after installation will be rejected by the Engineer and bolts replaced with those of adequate length, at no additional cost to the Department.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Guardrail Long Span, Det ____	Each

Guardrail Long Span, Det ____ includes constructing a guardrail long span, of specified detail, as detailed on Standard Plan R-72 Series and as specified in this special provision.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
GUARDRAIL, CURVED GUARDRAIL, AND TEMPORARY GUARDRAIL

GCB:CT

1 of 1

APPR:CAL:NAP:05-19-22
FHWA:APPR:05-24-22

a. Description. This work consists of constructing guardrail, including curved and temporary guardrail, of specified type and post length.

b. Materials. Furnish materials in accordance with section 807 of the Standard Specifications of Construction. Furnish posts of specified length.

c. Construction. Construct guardrail in accordance with section 807 of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	Pay Unit
Guardrail, Type __, __ inch Post	Foot
Guardrail, Temp, Type __, __ inch Post	Foot
Guardrail, Curved, Type __, __ inch Post	Foot
Guardrail, Curved, Temp, Type __, __ inch Post	Foot

All specifications pertaining to **Guardrail; Guardrail, Temp;** and **Guardrail, Curved** from subsection 807.04 of the Standard Specifications for Construction are applicable.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
GROUND MOUNTED SIGN SUPPORTS, REMOVE

DES:DBP

1 of 1

APPR:AJU:MWB:06-28-22
FHWA:APPR:06-28-22

a. Description. This work consists of removing each ground mounted sign support including but not limited to steel posts, wood posts and breakaway sign supports per section 810.03 Standard Specifications for Construction. Complete this work in accordance with this special provision, the plans, sections 810 and 919 of the Standard Specifications for Construction, and as directed by the Engineer.

b. Materials. None specified.

c. Construction. Once the existing sign has been removed and addressed per the contract remove the ground mounted sign support.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Ground Mtd Sign Support, Rem.....	Each

Ground Mtd Sign Support, Rem includes the cost of removing each support as shown on the plans or as directed by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT MARKING EQUIPMENT

PMK:MKB

1 of 2

APPR:MWB:DBP:06-07-23
FHWA:APPR:06-20-23

Delete subsection 811.03.A on page 623 of the Standard Specifications for Construction in its entirety and replace it with the following:

- A. **Equipment.** Provide self-propelled equipment certified by the Department in accordance with MDOT's *Equipment Certification Guidelines – Pavement Markings* for longitudinal striping on roadways. Certification is effective for 2 years. The Engineer may approve other equipment for special markings, parking lots, or areas inaccessible to self-propelled pavement marking equipment.

Apply longitudinal lines using certified self-propelled pavement marking equipment equipped with at least two binder tanks (plus a third catalyst tank for plural component materials) each having a capacity of at least 100 gallons and, if a double drop of two different optics is required, at least two optics tanks that may be utilized at the same time and have enough capacity to match the operating duration of 100 gallon binder tanks. Operate marking equipment at no greater than the certified speed. The Engineer will assume that a striper operating above the certified working speed has operated at that speed for the entire day.

The Department may inspect the equipment at any time.

Use equipment capable of uniformly applying material to the required length and width.

Combination lines (double solid, solid and broken, double broken) must be placed in a single pass utilizing a multi-gun system. If the project calls for 4-inch width centerlines, provide equipment for placing centerlines equipped to apply three 4-inch-minimum-width lines on a two-lane road in one pass. If applying multiple centerlines, use three spray guns positioned 6 inches on center. If the project calls for 6-inch width centerlines, provide equipment for placing centerlines equipped to apply two 6-inch-minimum-width lines on a two-lane road in one pass. If applying multiple centerlines, use two spray guns positioned 10 inches on center. For two-lane freeways, apply the lane line from the left lane. For freeways with at least three lanes, apply the right lane line with the right edgeline when the right lane line and edgeline are the same material.

Use an easily adjusted, dashing mechanism to retrace existing lane or centerline markings.

Use a self-propelled pavement marker equipped to mark pavement in either direction on a roadway. Provide equipment setup to apply markings off both sides of the truck simultaneously when not striping in a recess. The driver's side carriage must be equipped with a dedicated white gun along with the yellow guns. The truck must also be

equipped with blowers in front of the gun carriages with the air supply produced by a minimum 185 cfm compressor. If striping contraflow to traffic, a lane closure must be utilized. Use a continuous skip cycle. Do not zero or return the cycle control unit to the beginning or start of a new cycle.

Provide a distance meter to measure the length of each line.

The Engineer may check the calibration of metering devices at any time. If the Engineer determines that the equipment is unsatisfactory, use other methods approved by the Engineer.

Use equipment for placing hot-applied thermoplastic and sprayable thermoplastic material that can maintain the temperature recommended by the material manufacturer.

Allow time for the Engineer to inspect traffic control devices as shown in MDOT's *Pavement Marking Convoy Typical*s or the project plans prior to marking applications and make any corrections as directed by the Engineer before continuing. If applying markings on a roadway closed to traffic, the traffic control devices specified in MDOT's *Pavement Marking Convoy Typical*s are not required, unless otherwise directed by the Engineer.

The equipment must have the following minimum safety equipment: a backup camera; strobes on the front, rear and midpoint of the truck bed; flood lights for night work; and flashers on the gun carriages.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MOBILE ATTENUATOR

COS:CRB

1 of 4

APPR:CT:LLR:08-04-22
FHWA:APPR:08-15-22

a. Description. This special provision sets the guidelines for when mobile attenuators are to be used to protect workers or work equipment from vehicular traffic. Throughout this special provision, mobile attenuators refer to truck mounted attenuators (TMA) and trailer mounted attenuators.

Use mobile attenuators in projects to protect personnel or equipment when one or more of the following conditions are met.

- The vehicle is designated as a protective vehicle (shadow vehicle or barrier vehicle) as part of the Maintaining Traffic Typical, maintenance of traffic plans, or other contract documents.
- Aerial work is being performed on scaffolding, lifts, hoists, bucket trucks, etc., where workers using this equipment are in an occupied lane or shoulder and not protected by temporary barrier. Mobile attenuators are not intended to be used for the removal, installation, or maintenance of traffic signals.
- Mobile/short duration operations such as pavement marking convoys, grinding in rumble strips, permanent sign installations, temporary ground mounted sign installations, sign installations located in areas where a work-vehicle cannot pull entirely outside of the edge line, luminescent installations, etc. Mobile attenuators are not intended to be used for the removal or installation of special markings.

Do not mount mobile attenuators on the vehicle or equipment used by personnel to complete aerial work. Do not use mobile attenuators as a temporary/permanent barrier ending except during replacement of damaged temporary/permanent barrier endings. In the event that a mobile attenuator is used as a temporary safety measure for a damaged temporary/permanent barrier ending, the maximum length of time that it can be used for this purpose is 48 hours or as approved by the Engineer.

1. Stationary and Mobile Operation. This work consists of furnishing a vehicle with a gross vehicle weight meeting manufacturer's specifications, or meeting the minimum weight requirements shown in Tables 1 and 2, whichever is greater. Furnish, install, and operate a mobile attenuator in accordance with the manufacturer's recommendations, the contract, and/or as directed by the Engineer. Locate the attenuator placement as detailed in the applicable Maintaining Traffic Typical, maintenance of traffic plans or elsewhere in the contract.

Securely attach material loaded onto the vehicle to obtain the required gross weight, for transport or during work operations to the vehicle. Hazardous materials will not be allowed

on this vehicle. Materials that will be off loaded and incorporated into the construction activities will not be considered part of the vehicle gross weight.

b. Materials and Design. Use mobile attenuators that meet or exceed the requirements of *NCHRP 350 Test Level 2 (TL-2)* or *Test Level 3 (TL-3)*, or *MASH TL-2* or *TL-3*, as described below for work zone traffic control devices.

1. Utilize a mobile attenuator rated for *NCHRP 350, TL-2* or *MASH, TL-2* on non-freeway roadways with a normal posted speed of 40 mph or less. TL-2 mobile attenuators are prohibited for use on all freeways, regardless of the posted speed limit, and non-freeway roadways and work zones with posted speed limits of 45 mph or greater.

2. Utilize a mobile attenuator rated for *NCHRP 350, TL-3* or *MASH, TL-3* on all freeways, regardless of the posted speed limit, and non-freeway roadways and work zones with posted speed limits of 45 mph or greater. TL-3 mobile attenuators may be used on all roadways and work zones regardless of the posted speed limit.

Furnish the Engineer a copy of the FHWA letter of eligibility for federal aid stating the mobile attenuator meets the appropriate *NCHRP 350* or *MASH* test level specified in the above stated criteria. In addition, furnish a letter to the Engineer stating the mobile attenuator system has been installed and maintained in accordance with the manufacturer's specifications.

The face of the mobile attenuator, visible to approaching traffic must have reflectorized alternating yellow and black stripes, sloping downwards in both directions from the center of the attenuator.

c. Operating Details and Utilization. Operate the mobile attenuator per manufacturer's recommendations, the contract, and/or as directed by the Engineer. This includes, but is not limited to, the following:

- Unless otherwise specified by the mobile attenuator manufacturer, ensure the height from the bottom of the mobile attenuator to the roadway surface is 12 inches (± 2.5 inches). When specified otherwise by the manufacturer, furnish documentation to the Engineer indicating the manufacturer's bottom height recommendations and tolerances.
- Ensure the mobile attenuator is parallel (level) with the roadway surface.
- Furnish a shoulder harness and headrest for the mobile attenuator vehicle's operator.

For stationary operations, when operating the vehicle with the attenuator installed, ensure the vehicle is in second gear if it has a standard transmission (park if an automatic transmission), with the parking brakes set and steering wheels turned away from the work area and traffic, if possible.

Place the mobile attenuator in accordance with the manufacturer's recommended roll-ahead distance, or the minimum roll-ahead distance shown in Tables 1 and 2, whichever is greater.

If the mobile attenuator is involved in a crash, provide pictures of the crash scene and the damage of the mobile attenuator to the Engineer within 7 days of the incident.

d. Measurement and Payment. Mobile attenuators will be furnished and operated at no cost to the Department for all contract items associated with pavement marking operations.

The cost for the equipment, mobilization, and labor to furnish and operate this equipment will be included in other contract pay items. The Department will pay for repair or replacement of a mobile attenuator called for as part of the pavement marking operations if damaged by something other than the Contractor's own equipment, during contract operations as described below. Measurement and payment for the use of mobile attenuators on all other contract items will be as described below.

Pay Item	Pay Unit
Mobile Attenuator	Each

The Department will pay for the maximum number of mobile attenuators deployed per the Maintaining Traffic Typical, maintenance of traffic plans or elsewhere in the contract and in use at any one time during the life of the project or as approved by the Engineer. If the Contractor uses alternative construction operations or methods that require additional mobile attenuators that exceed the amount specified in the contract, the additional mobile attenuators must be provided at the Contractor's expense.

The Department will pay for repair or replacement of a mobile attenuator called for as part of the contract if damaged by something other than the Contractor's own equipment, during contract operations by contract modification with the name of the extra pay item to be defined as Mobile Attenuator, Repair or Mobile Attenuator, Replace if the following criteria are met:

1. The damaged or destroyed attenuator must meet all of the manufacturing and operating criteria of this special provision.
2. The Contractor must have attenuators repaired or replaced in accordance with the Manufacturer/Supplier recommendations to ensure that the units are in good working order. Documentation of repair is to be furnished to the Engineer via signed certification from the Contractor stating that the repairs have been done in accordance with the Manufacturer's recommendations prior to implementing the mobile attenuators for use.
3. Furnish a crash report from the enforcement agency involved in the crash investigation.
4. Furnish pictures of the crash scene and damages to the mobile attenuator.
5. Ensure the attenuator repair or replacement is for the actual unit as required by this special provision. The cost to perform the repairs or replace the attenuator including installation will be paid for by the Contractor. Furnish to the Engineer a detailed invoice from the Supplier showing material costs for replacement or repair for payment. The Department will not pay for repair or replacement cost beyond the Suppliers' invoice cost for a new attenuator.
6. The Department will not pay for any costs that are required to replace or repair the attenuator vehicle and any other items which were used to operate the attenuator.
7. Attenuators that have been repaired or replaced as part of the contract are not eligible for additional payment using the Mobile Attenuator pay item once the attenuator is placed back into service.

Table 1. Guidelines For Roll-Ahead Distance For Mobile Attenuator Vehicles Test Level 2

Weight of Mobile Attenuator Vehicle (b)	Posted Speed (mph) (Posted Speed Prior to Work Zone)	Roll Ahead Distance (a), (c) (Distance from front of Mobile Attenuator Vehicle to Work Area)
5.5 Tons (Stationary Operation)	40 or Less	25 feet
a. Roll ahead distances are calculated using a 4,410 pound impact vehicle weight. b. Minimum vehicle weight specified. Use manufacturer's recommended mobile attenuator vehicle weight when the manufacturer's recommendation exceeds the minimum weight specified in this table. c. Minimum roll-ahead distance specified. Use manufacturer's recommended roll-ahead distance when the manufacturer's recommendation exceeds the minimum roll-ahead distance specified in this table.		

Table 2. Guidelines For Roll-Ahead Distance For Mobile Attenuator Vehicles Test Level 3

Weight of Mobile Attenuator Vehicle (b)	Posted Speed (mph) (Posted Speed Prior to Work Zone)	Roll-Ahead Distance (a), (c) (Distance from front of Mobile Attenuator Vehicle to Work Area)
5 Tons (Mobile Operation)	60-70	175 feet
	50-55	150 feet
	45	100 feet
12 Tons (Stationary Operation)	60-70	50 feet
	50-55	25 feet
	45	25 feet
a. Roll ahead distances are calculated using a 10,000 pound impact vehicle weight. b. Minimum vehicle weight specified. Use manufacturer's recommended mobile attenuator vehicle weight when the manufacturer's recommendation exceeds the minimum weight specified in this table. c. Minimum roll-ahead distance specified. Use manufacturer's recommended roll-ahead distance when the manufacturer's recommendation exceeds the minimum roll-ahead distance specified in this table.		

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EXCAVATED TOPSOIL OR SALVAGED TOPSOIL

RSD:NJM

1 of 1

APPR:NMA:DMG:02-16-23
FHWA:APPR:02-21-23

Delete subsection 816.03.A.3, on page 8-145 of the Standard Specifications for Construction, in its entirety and replace with the following:

- 3. Excavated Topsoil or Salvaged Topsoil.** Excavate topsoil intended for salvaging in accordance with subsection 205.03.A.1. The Engineer will direct stockpiling excavated or salvaged topsoil within the right-of-way. Salvaged topsoil must be weed-free prior to establishing new growth. Salvaged topsoil that is made unsuitable for use from excavation, maintenance, or other Contractor operations will be rejected by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
INDUSTRIAL BY-PRODUCTS AND BENEFICIAL RE-USE

HYD:HLZ

1 of 1

APPR:JJG:JFS:04-02-20
FHWA:APPR:04-03-20

a. Description. For this project, regardless of the application, the use of industrial by-products covered in 2014 PA 178 is prohibited unless the use and application of a particular material is covered elsewhere in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PORTLAND CEMENT (TYPE IL)

CFS:JFS

1 of 2

APPR:TES:TEB:12-14-21
FHWA:APPR:12-16-21

a. Description. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for concrete mixtures and other applications where Type I Portland cement is specified, provided documentation showing specification compliance is provided as described herein.

The Contractor must provide the Engineer a minimum of 14 calendar days prior notification of their intent to substitute Type IL Portland cement in lieu of Type I Portland cement for the project.

b. Materials. Furnish Type IL Portland cement in accordance with section 901 of the Standard Specifications for Construction meeting the chemical and physical requirements specified in *ASTM C595/C595M, Standard Specifications for Blended Hydraulic Cements*. Ensure the Type IL Portland cement proposed for substitution is from the same Approved Manufacturer as the Type I Portland cement in the approved JMF.

c. Construction. At least 7 days prior to concrete production, the concrete producer must provide test data (specified below) generated from a four cubic yard (minimum) trial batch of concrete using Type IL Portland cement for the Engineer's review and approval. The trial batch must represent a current approved JMF for either a standard MDOT Grade 3500, Grade 3500HP, Grade 4500, or Grade 4500HP concrete mixture produced using Type I Portland cement, as described in section 1004 of the Standard Specifications for Construction. Ensure the materials and mixture proportions for the Type IL JMF are the same as those documented in the above mentioned JMF using Type I Portland cement. Minor adjustments to chemical admixture dosages are permitted in efforts to achieve the specified fresh concrete properties. Trial batch compliance for applications other than Portland cement concrete mixtures will be in accordance with the contract.

1. Fresh Concrete Properties.
 - A. Concrete temperature,
 - B. Air content of fresh concrete, and
 - C. Slump.
2. Hardened Concrete Properties.
 - A. 7-day compressive strength.

The Engineer will review the trial batch test data to determine if the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of

concrete represented by the trial batch. If the Engineer determines that the trial batch test data are in conformance with specification requirements, then the Type IL Portland cement will be permitted to be substituted in lieu of the Type I Portland cement for all approved concrete mixtures generated at the concrete production facility for the project. If the Engineer determines that the trial batch test data do not meet specification requirements for the respective MDOT Grade of concrete, the Contractor will not be permitted to substitute Type IL Portland cement in lieu of Type I Portland cement. Mix design and JMF documentation for concrete mixtures using Type IL Portland cement will then be required in accordance with subsection 1003.03.C of the Standard Specifications for Construction or the contract, where applicable.

Once Type IL Portland cement is approved for use on the project, reinstatement of Type I Portland cement into the JMF is not permitted. Substitution of other material types or sources, including admixtures, as documented in the initial Type I JMF is not permitted.

The Engineer will complete field sampling and testing for all production lots containing Type I Portland cement JMF prior to respective Type IL Portland cement substitution. Do not include concrete mixtures containing Type I and Type IL Portland cement types in the same production lot.

d. Acceptance. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for the project with no additional laboratory trial batch requirements, as described in subsection 1003.03.C.2.a of the Standard Specifications for Construction, provided the Engineer has reviewed the concrete producer's test data generated from a four cubic yard (minimum) trial batch of concrete, described above, and has determined that the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of concrete represented by the trial batch.

e. Measurement and Payment. The work included in this special provision will not be paid for separately and is included in other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATIONSPECIAL PROVISION
FOR
AGGREGATE, 46G

CFS:JYG

1 of 1

APPR:SAG:DMG:02-15-22
FHWA:APPR:02-16-22

Delete the last row of Table 902-2 in subsection 902 of the Standard Specifications for Construction in its entirety and replace with the following:

Open-graded aggregates	46G	80	45	—	—	—
------------------------	-----	----	----	---	---	---

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MICRONIZED COPPER WATER BASED WOOD PRESERVATIVE SYSTEMS

STR:SCK

1 of 1

APPR:HLZ:POJ:04-13-20
FHWA:APPR:04-13-20

a. Description. Micronized copper water based wood preservative systems are an alternate to the preservative systems identified in section 912 of the Standard Specifications for Construction, except on wood posts used for signing. Micronized copper water based wood preservative systems are proprietary systems used to treat timber and lumber for resistance to insect attack, decay, and rot. Proprietary micronized copper based wood preservative systems are evaluated by the *International Code Council Evaluation Service, Inc (ICC-ES)*. This special provision covers the requirements for micronized copper azole (MCA) and micronized copper quaternary (MCQ).

b. Materials. *ICC-ES* requirements and specified commercial standards are incorporated herein by reference. Treated wood product reports issued by the *ICC-ES* as Evaluation Service Reports (ESRs) must be current as posted on the *ICC-ES* website <https://icc-es.org/> and in compliance with AC326. The preservative(s) must not contain arsenic. The treated wood product's report must allow for the wood species and end use that is required by the project specifications. The Contractor must provide test data certification for each lot, that the treated timber and lumber meets the retention requirements of the appropriate *AWPA* Use Category.

Condition and treat timber and lumber for above ground use to the minimum preservative retention corresponding to *AWPA* Use Category 4A (UC4A). Condition and treat timber and lumber for ground contact to the minimum preservative retention corresponding to *AWPA* Use Category 4B (UC4B).

Condition and treat all round posts, except northern white cedar, to the minimum preservative retention corresponding to *AWPA* Use Category 4B (UC4B).

Incorporation of timber and lumber treated to the preservative retention in *AWPA* Use Category 3B (UC3B) or less is not permitted. Timber and lumber placed in violation of this special provision is cause for removal and replacement at the contractor's expense. No pay adjustments will be allowed for incorporation of timber and lumber treated to UC3B preservative retention. Removal is required.

c. Construction. Use stainless steel fasteners or hot dipped galvanized fasteners in accordance with *ASTM A653/A653M*, batch or post-dipped process, with a minimum coating thickness of 1.85 oz of Zinc per square foot of surface area (G185). Do not mix fastener types. Do not use aluminum fasteners. Aluminum must not be in direct contact with treated wood. Non metallic spacers are to be used where contact with aluminum could occur.

d. Measurement and Payment. Payment is included in other items of work.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TOPSOIL COMPOSITION

RSD:NJM

1 of 1

APPR:DMG:JJG:02-21-23
FHWA:APPR:03-03-23

Delete subsection 917.06, on page 9-134 of the Standard Specifications for Construction, in its entirety and replace with the following:

917.06. Topsoil

Unless specified on the plans or other special provisions, obtain the Engineer's approval for salvaged topsoil prior to use. Salvaged topsoil must be free of contaminants, natural underlying soils, subbase materials, or other deleterious material.

Provide furnished topsoil specifications or samples to the Engineer for approval prior to placement.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WET REFLECTIVE PAVEMENT MARKINGS

PMK:MKB

1 of 1

APPR:MWB:DBP:06-07-23

FHWA:APPR:06-20-23

Delete subsection 920.02.C on page 9-170 of the Standard Specifications for Construction in its entirety and replace it with the following:

- C. **General Requirements for Wet Reflective Optics.** Select wet reflective optics from the Qualified Products List or a Department-approved alternative that meets or exceeds the retroreflectivity requirements specified in Table 920-3.

Prior to application, submit certification from the wet reflective optics manufacturer that when applied according to the manufacturer's application recommendations, the wet reflective optics meet the requirements in Table 920-3.

**Table 920-3:
General Wet Reflective Optic Requirements: Average Initial
Retroreflectivity at 30-meter Geometry in mcd/lux/m²**

Test Method	Color	
	White	Yellow
Dry (<i>ASTM E1710</i>) for cold plastic, polyurea, waterborne, regular dry, and sprayable thermoplastic	700	500
Dry (<i>ASTM E1710</i>) for all other materials	550	350
Wet Recovery for all materials (<i>ASTM E2177</i>)	250	200
Wet Continuous for all materials (<i>ASTM E2832</i>)	100	75

Initial retroreflectivity is defined as readings taken no earlier than 7 days and no later than 30 days after material placement.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TEMPORARY PAVEMENT MARKING, TYPE R TAPE REVISION

COS:CRB

1 of 1

APPR:LLR:MKB:04-18-22
FHWA:APPR:05-05-22

Delete subsection 922.06.A.1 of the Standard Specifications for Construction, in its entirety and replace with the following:

1. **Pavement Marking, Wet Reflective, Type R.** Provide wet reflective Type R temporary pavement marking as preformed tape. Apply and remove preformed tape in accordance with the manufacturer's instructions. The tape must remain flexible and conform to the texture of the pavement surface during use. Select one of the following materials:
 - a. 3M™ Stamark™ Wet Reflective Removable Tape Series IR710 White manufactured by 3M Traffic Safety & Security Division, 3M Center, 225-4N-14 St. Paul, MN, 55144, (800)-553-1380.
 - b. 3M™ Stamark™ Wet Reflective Removable Tape Series IR711 Yellow manufactured by 3M Traffic Safety & Security Division, 3M Center, 225-4N-14 St. Paul, MN, 55144, (800)-553-1380.
 - c. Deltaline Temporary Wet Reflective/TWR-HP white manufactured by Brite-line LLC 10660 East 51st Ave. Denver, CO 80239, phone 303-375-1293.
 - d. Deltaline Temporary Wet Reflective/TWR-HP yellow manufactured by Brite-line LLC 10660 East 51st Ave. Denver, CO 80239, phone 303-375-1293.

Local Agencies may use a material listed above or select wet reflective Type R markings from the Qualified Products List (922.06A).

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
MULTIPLE DAVIS-BACON WAGE DECISIONS

CSD:LFS

1 of 1

APPR:CT:03-24-22

This proposal may contain multiple Davis-Bacon Wage Decisions. In order to clarify the work covered by each decision, the following explanations are offered:

General Decision MIxxxx0001 covers all airport construction, bridge construction, highway construction, and sewer and water main work that are incidental to highway projects. The construction type indicated on this decision is "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)". This wage decision is the most commonly used wage decision in MDOT's federally funded projects.

In accordance with the U.S. Department of Labor's (DOL) all agency memorandums No. 130, No 131 and No. 236, multiple wage decisions will be included in those projects in which a second category of work is substantial in relation to project cost – more than approximately 20 percent or \$2,500,000. Sewer and water main work is considered to fall under the heavy construction work classification by the DOL, therefore when that work type is more than 20 percent of the engineer's estimate or \$2,500,000, the wage decision with the construction type "HEAVY CONSTRUCTION PROJECTS" will also be included in the proposal and is to be used for the sewer and watermain work in the proposal. All other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision.

Also, when the landscape work is more than 20 percent of the project cost or \$2,500,000, the "HEAVY CONSTRUCTION PROJECTS" wage decision will be included in the proposal to cover all landscape work. All other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision. If the project is a total landscape project, only the "HEAVY CONSTRUCTION PROJECTS" wage decision will be in the proposal.

Rest area building projects will include the construction type "BUILDING" wage decision when the building portion of the work is more than 20 percent of the project cost or \$2,500,000. The other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision and/or the "HEAVY CONSTRUCTION PROJECTS" wage decision (landscape and/or sewer and water main work) if either or both are greater than 20 percent or \$2,500,000.

Although there is only one wage decision for "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)", work (MIxxxx0001), the "HEAVY CONSTRUCTION PROJECTS" and "BUILDING" wage decisions vary from county to county.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
BID RIGGING

CSD:LS

1 of 1

APPR:MAS:02-09-21

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially, and caller anonymity will be respected.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
FRAUD AND ABUSE HOTLINE

CSD:LS

1 of 1

APPR:MAS:02-09-21

The Michigan Department of Transportation (MDOT) has established a Fraud and Abuse Hotline for employees, contractors, consultants, and others to report suspected fraud or abuse, such as: prevailing wage non-compliance, theft, kickbacks, wrongful claims, contract fraud, use of materials that do not comply with specifications, unapproved substitution of materials, commodities, or test samples, or failure to follow contract procedures.

Anyone with knowledge of any activity involving the potential for fraud or abuse is requested to call the Hotline at (toll free) **1-866-460-6368** or **517-241-2256**.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
USE OF CRUSHED CONCRETE FOR DENSE- AND OPEN-GRADED AGGREGATES

ENV:CP

1 of 1

APPR:MAS:09-09-21

Pursuant to section 902 of the 2020 Standard Specifications for Construction, the use of crushed concrete for dense-graded aggregate, open-graded aggregate is prohibited within 100 feet of a waterbody (stream, river, county drain, wetland, lake, etc.).

Waterbodies are located at the following stations:

Branch #1 of the Newell Drain - STA 71+77

Branch #2 of the Newell Drain - STA 81+53

Branch #1 of the Pluss Drain - STA 93+45 to STA 99+97

Pluss Drain - STA 111+51 to STA 128+75

Branch #3 of the Lathorpe Drain - STA 144+10 to STA 150+70

Lathorpe Drain - STA 150+70

Branch #4 of the Lathorpe Drain - STA 150+70 to STA 156+80

Branch #1 of the Lathorpe Drain/Branch #2 of the Lathorpe Drain - STA 163+86

**MIDLAND COUNTY ROAD COMMISSION
NOTICE TO BIDDERS
FOR
UTILITY COORDINATION**

MCRC: ROWE

1 of 2

AUGUST 2023

The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the Michigan Department of Transportation Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the Michigan Department of Transportation Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 of the Michigan Department of Transportation Standard Specifications for Construction.

Consumers Energy (Electric)

Virgie Downs
2400 Weiss St
Saginaw, MI 48602
989-791-5938 (w)
virgie.downs@cmsenergy.com

AT&T

Michael Baiz
502 Beach Street
Flint, MI 48502
810-938-3143 (W)
mb1269@att.com

Consumers Energy (Gas Distribution)

Evan Huizenga
3201 E. Court Street
Flint, MI 48506
810-847-8227 (W)
evan.huizenga@cmsenergy.com

City of Midland Water Distribution

Tom Hoblet
333 West Ellsworth Street
Midland, MI 48640
989-837-3515 (W)
thoblet@midland-mi.org

Midland County Drain Commission

Joseph Sova
220 W. Ellsworth Street
Midland, MI 48640
989-832-6770 (W)
989-832-6841 (F)
Drain@co.midland.mi.us

Charter Communications

Patrick Delisi
14252 Farmington Road
Livonia, MI 48154
586-746-6684
Patrick.delisi@charter.com

Lumen Technologies

Wade Miller
110 West Main Street
PO Box 569
Kingsley, MI 49646-0569
989-277-7943
relocations@lumen.com

City of Midland

Matt Lemon
333 West Ellsworth Street
Midland, MI 48640
989-837-3348
mlemon@midland-mi.org

For the protection of underground utilities, and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single address of rte.missdig.org, a minimum of 3 business days prior to excavating, excluding weekends and holidays. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be part of the "Miss Dig" alert system.

The owners of existing service facilities that are within grading or structure limits will move them to locations designated by the Engineer or will remove them entirely from the roadway right-of-way.

Owners of utilities will not be required to move additional poles or structures in order to facilitate construction operations, unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are extremely dangerous to the Contractor's operations.

The existing utilities shown on the plans represent the best information available as obtained from survey and existing records. This information does not relieve the Contractor of the responsibility of protecting all existing utilities, in case utilities have been constructed or removed since the survey date or if utilities are encountered in different locations.

The contractor shall be responsible for the protection of all existing utilities during construction of this project. Any utilities damaged by the Contractor shall be repaired in accordance with the related utility specifications at the Contractor's expense.

Consumers Energy is to coordinate relocation of their existing gas test station at STA 64+94 LT prior to the start of construction.

Consumers Energy is to coordinate the removal of their existing vacant utility pole at STA 82+16 RT and the relocation of their existing utility pole at STA 135+75 RT.

AT&T is to coordinate relocation of their existing telephone pedestals and cables at STA 104+84 LT and STA 146+71 LT prior to the start of construction.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

1 of 10

06-30-23

Page	Subsection	Errata
1-06	101.02	Delete the second abbreviation of the list on this page reading: “IES Illuminating Engineering Society
1-06	101.02	Add the abbreviation to the list on this page reading: “IESNA Illuminating Engineering Society of North America
1-83	108.05.A.2	In the first paragraph of this subsection change the language “MDOT Form 1130” to read “MDOT Form 1130A”.
1-88	108.08.D	Move the last paragraph of this subsection to the left one indent to align with the first paragraph of the subsection and not with the subsection 108.08.D.3.
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains.”
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, in wetlands or floodplains.”
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: “Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites.”
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: “Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department.”
2-30	205.03.P.4	Delete the first sentence of this subsection and replace with the following:

“The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans.”

- 3-31 308.04.D Change the subsection title from “D. **General.**” to read “A. **General.**”
- 4-7 401.03.E Delete the third sentence of the second paragraph of this subsection and replace with the following:
“Use precast or cast-in-place footings for precast end sections as required.”
- 4-8 401.03.E Delete the first sentence of this subsection and replace with the following:
“When discharging stormwater directly to waters of the state, permanently label all end sections or other piped points of stormwater entry with “MDOT” or the local agency’s name in a conspicuous location that will remain visible after construction.
- 4-11 401.04 Change the eighth pay item from the bottom of the list on this page to read as follows:
Culv End Sect __ inch, Grate.....Each
- 4-12 401.04.C.4 Change this subsection to read:
“The Engineer will measure Culv End Sect __ inch, Grate by each as shown on the plans for the size of grate required.”
- 4-21 402.03 Add a new subsection to the end of subsection 402.03 on this page reading as follows:
“K. **Outfall Labeling.** Label all stormwater outfalls directly discharging to waters of the state in accordance with subsection 401.03.E.
- 4-39 406.02 Change the third line in the list of materials to read:
Coarse Aggregate 6A, 6AA, 17A.....902
- 4-41 406.03.A.3 Delete the third paragraph of this subsection and replace with the following:
“Design joints between adjacent box culvert sections in accordance with Section 9 of ASTM C1577 and to accommodate the joint sealing material in accordance with section 914 as applicable.”
- 4-50 406.03.G.3 Change the first sentence of the first paragraph to read:
“Unless otherwise shown on the plans, construct culvert bedding for box culverts by placing a 9-inch-thick layer of 46G aggregate, covered with a 3-inch-thick layer of 34G, 34R aggregate, or approved equal.”
- 4-51 406.03.G.3 Add the following sentence to the end of the second paragraph of this subsection:

“The cold applied joint sealer must completely cover the external rubber gasket with the placement limits matching the width of the geotextile blanket.”

- 4-52 406.04.B In the second paragraph of this subsection delete the first sentence and replace with the following:
“The Department will pay separately for cast-in-place concrete, other than for culvert segments, headwalls, wingwalls, aprons, and curtain walls.”
- 5-26 502.02 Delete the first sentence of the subsection and the listed materials in this subsection.
- 5-26 502.02.A Add the following to the end of the first sentence in this subsection:
“(914.04A)”
- 5-26 502.02.B Add the following to the end of the first sentence in this subsection:
“(502.02B)”
- 5-35 503.04 Change the first paragraph to read:
“The unit price for **Paver-Placed Surface Seal**, of the type required, includes the cost of preparing the surface, and placing a membrane and paver placed surface seal course for full-width coverage, except that the Department will pay separately for removing pavement markings in accordance with subsection 812.04”
- 5-46 504.04.A Change the first paragraph to read:
“A. **General**. The unit prices for **Micro-Surface**, regardless of the type required, include cleaning existing pavement, applying a bond coat, stationing, corrective action, and traffic control to complete corrective action.”
- 6-20 602.04 Delete the fifteenth pay item of the list on this page reading:
“Shoulder, Reinf Conc..... Square Yard
- 6-20 602.04 Change the sixteenth thru the eighteenth pay items on this page to read as follows:
Shld, Nonreinf Conc..... Square Yard
Shld, Nonreinf Conc, High Performance Square Yard
Shld, Freeway..... Square Yard
- 6-21 602.04.B.1 Delete this subsection and replace with the following:
“**Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance**. The Engineer will measure, and the Department will pay for, **Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance** by area, based on plan quantities in accordance with subsection 109.01.”
- 6-21 602.04.B.2 Delete this subsection and replace with the following:
“**Shld, Freeway**. The Engineer will measure, and the Department will pay for, **Shld, Freeway** based on plan quantities in accordance

with subsection 109.01. If the Contractor uses concrete for the shoulder, the unit price for **Shld, Freeway** includes the cost of the transverse joints in the shoulder and the external longitudinal pavement joints.”

6-23	602.04.F	Add the following sentence to the end of the first paragraph of this subsection: Temporary concrete pavement, pavement within 4 feet of an obstruction, pavement areas less than 300 square yards, or pavement less than 3 feet wide will not be cored.
6-23	602.04.F	Delete the following language from this subsection on this page: “The Engineer will not core the following: 1. Temporary concrete pavement; 2. Pavement within 4 feet of an obstruction; 3. Pavement areas less than 300 square yards; or 4. Pavement less than 3 feet wide.”
6-24	602.04	Rename the following subsections as follows: “1. Initial Core.
6-24	602.04	2. Additional Cores.
6-24	602.04	3. Price Adjustment for Thickness.
6-25	602.04	4. Price Adjustments for Steel Locations within the Pavement.
6-26	602.04	5. Remove and Replace.”
7-107	709.04	Change the Pay Unit on the second pay item from the top of the list on this page to read as follows: Thousand Board Foot
8-12	804.03.B.2	Change the first sentence in this subsection to read: “Cast in place light standard and sign support foundations using fixed forms in accordance with the <i>MDOT Standard Plan R-50 series.</i> ”
8-27		Change the last pay item at the bottom of this page to read as follows: Guardrail Anch, Bridge, Det __, Curved.....Each
8-44	810.03.J.9	Add a period to the end of the third sentence in this subsection.
8-53	810.03.V	Add a period to the end of the second sentence of the first paragraph of this subsection.
8-53	810.04	Change the fourth pay item from the top of the list on this page to read as follows: Post, Steel, __ pound.....Foot

- 8-53 810.04 Change the last four pay items at the bottom of this page to read as follows:
Fdn, Truss Sign Structure Type __, __ inch dia, Cased.....Foot
Fdn, Truss Sign Structure Type __, __ inch dia, Uncased.....Foot
Fdn, Cantilever Sign Structure Type __, __ inch dia, CasedFoot
Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased.Foot
- 8-55 810.04.B.1 Delete the second paragraph of this subsection and replace with the following:
“The unit prices for **Fdn, Truss Sign Structure Type __, __ inch dia, Cased** and **Fdn, Cantilever Sign Structure Type __, __ inch dia, Cased** include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material.”
- 8-55 810.04.B.2 Delete this subsection and replace with the following:
“**Foundation, Truss Sign Structure, Uncased and Foundation, Cantilever Sign Structure, Uncased.** The unit prices for **Fdn, Truss Sign Structure Type __, __ inch dia, Uncased** and **Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased** include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material.”
- 8-57 810.04.I Delete the first paragraph of this subsection and replace with the following:
“The unit price for **Sign, Rem** of the type required includes the cost of removing signs from supports and stacking by shape and size.”
- 8-57 810.04.I Delete the second paragraph of this subsection and replace with the following:
“The unit prices for **Ground Mtd Sign Supports, Rem; Cantilever, Rem** and **Truss, Rem** include the cost of removing ground mounted sign supports, cantilever or truss supports.”
- 8-57 810.04.L Change this subsection to read:
“The unit price for Sign, Erect, Salv of the type required includes erecting the salvaged sign on a new sign support or existing sign support, as shown on the plans, and attaching devices, and hardware, including brackets.”
- 8-58 810.04.N Delete this subsection in its entirety.
- 8-110 812.04 Change the fifth and sixth pay item from the top of the list on this page to read as follows:
Sign, Type B, Temp, Prismatic, Spec, Furn Square Foot
Sign, Type B, Temp, Prismatic, Spec, Oper Square Foot
- 8-141 815.04.C.1.b Delete this subsection in its entirety.
- 8-141 815.04.C.1.c Rename and change this subsection as follows:

“b. Removal and disposal of unacceptable plants including the root ball.

8-141	815.04.C.1.d	Delete this subsection in its entirety.
8-142	815.04.C.2.d	Change this subsection to read: "During the first watering of the second growing season, remove and dispose of the guying material, identification tags, and inspection tags."
8-144	816.03.A	Change the third sentence in this subsection to read: "Use topsoil from within the project limits; or from off-site sources meeting the requirements in subsection 917.06."
8-167	818.04	Add the pay item to the bottom of the list on this page as follows: Power Company (Estimated Cost to Contractor)..... Dollar
8-170	818.04.G	Delete this subsection in its entirety.
8-170	818.04	Rename the following subsections as follows: G. Handholes (Hh).
8-171	818.04	H. Service Disconnect.
8-171	818.04	I. Metered Service.
8-171	818.04	J. Unmetered Service.
8-172	818.04	K. Wood Pole.
8-172	818.04	L. Concrete Pole, Fit Up.
8-172	818.04	M. Steel Pole, Fit Up.
8-172	818.04	N. Bracket Arm."
8-171	818.04.J	Delete the second paragraph of this subsection and replace with the following: "The pay item, Power Company (Estimated Cost to Contractor) , establishes a budgeted amount in the contract to cover the cost of reimbursing the Contractor for payments made to the power company for providing electrical power at the locations shown on the plans. The Department will estimate the reimbursement costs to the Contractor and establish a budgeted amount as shown on the plans. The Department will pay the Contractor for power company invoices paid, as submitted to the Engineer."
8-176	819.03.B.5.b	In the second paragraph of this subsection delete the first sentence and replace with the following: "Tighten bolts connecting the pole to the frangible base to a snug tight condition in accordance with subsection 707.03.E.6.c."
8-185	820.01.B	Add a period to the end of the first sentence of this subsection.
8-187	820.02	Change the first line in the list of materials on this page to read: Conduit Material.....918

8-196	820.03.O	In the fourth paragraph of this subsection delete the last sentence and replace with the following: "Use smooth wall, Schedule 80, rigid PVC conduit, or coilable, Schedule 80 PE conduit in accordance with section 818."
8-199	820.04	Add the pay item to the list on this page: TS, (number) Way (type) Mtd (LED) Optic
8-200	820.04	Change the second pay item from the top of the list on this page to read as follows: TS Head, TempEach
8-200	820.04	Change the eleventh pay item from the top of the list on this page to read as follows: TS, Lens, Pedestrian Sym (LED)Each
8-200	820.04	Delete the following pay items from the list: Strain Pole, Steel, 6 bolt, __ foot.....Each Mast Arm Pole, Cat.....Each Mast Arm, __Foot, Cat.....Each
8-200	820.04	Change the eleventh pay item from the bottom of the list on this page to read as follows: Mast Arm, Rem.....Each
8-201	820.04	Delete the following pay item from the list: Power Co. (Est Cost to Contractor)..... Dollar
8-202	820.04	Add the following pay item to the list: Bracket, Truss, Salv.....Each
8-204	820.04.C	Delete the last paragraph of this subsection in its entirety.
8-204	820.04.D	Delete the first paragraph of this subsection in its entirety.
9-9	902.03.C.1.b	Delete the first sentence in this subsection and replace with the following: "The physical requirements for the coarse aggregate are as specified in Table 902-2 and as follows:"
9-16	Table 902-2	Delete the superscript footnote in the first through fourth rows under the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-16	Table 902-2	Add the superscript footnote in the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-15	Table 902-2	Delete the footnote (d) in one location in the table.
9-17	Table 902-2	Delete the footnote (d) in one location in the table.

tests referenced in AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."

9-170	920.02.C	Change the reference to Table 920-2 to read Table 920-3 in two locations.
9-222	922.10.A.3	Delete this subsection and replace with the following: "Conform to the wind load requirements specified by AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals with all equipment mounted without the need for additional ballast;"
10-23	1003.03.B	Delete the last sentence of this subsection and replace with the following: "Aggregate sampling for concrete will be performed by an MCAT-certified Aggregate Technician Level II."
10-43	Table 1006-02	Replace Table 1006-02 with the Table 1006-02 below.
1A - 20A	Pay Item Index	Replace the Pay Item Index in its entirety.

**Table 1006-2:
Overlay Mixtures**

Mixture Type	Aggregate	Slump (inch)	Air Content	Admixture Required	Mixture Proportions lb/yd ³ , dry weight					
					Cement ^(a)	Dry Densified Silica Fume ^(b)	Net Mix Water	Fine Agg	Coarse Agg	Latex Admixture
SFMC	2NS and 26A ^(c)	4–6	6.5 ±1.5%	(d),(e),(f)	618	40	273 ^(g)	1273	1601	—
LMC	2NS and 26A ^(c)	(h)	4.5 ±1.5%	—	658	—	(h)	1490 ^{(i),(j)}	1300 ^{(i),(j)}	206

(a) Use only Type I Portland cement.

(b) For SFMC mixtures, the Contractor may use a blended silica fume Portland cement. However, if the silica fume content of the blended material is greater than 8% of the total cementitious material, submit to the Engineer modified mix proportions with Type I Portland cement added to the blended material to achieve the equivalent individual cementitious material mixture proportions.

(c) Provide coarse aggregate, 95% minimum crushed materials in accordance with Michigan Test Method (MTM) 117, with an absorption no greater than 2.5%, in accordance with ASTM C127.

(d) Water-reducing high-range admixture or water-reducing high-range and retarding admixture.

(e) Virgin polypropylene collated fibers at 2 lb/yd³.

(f) Air-entraining admixture.

(g) Provide a net water to cementitious material ratio of 0.41 (cementitious material includes cement and silica fume).

(h) Add water in addition to water in the latex admixture to control slump to within 3 to 5 inches. Measure slump from 4 to 5 minutes after discharge from the mixer. During the waiting period, deposit concrete on the deck and do not disturb. If placing mixtures on sections within superelevated curves, the Contractor may need to use the lower allowable range of the slump requirement, as determined by the Engineer. Do not exceed water-cement ratio, by weight, of 0.30 including water contained in the latex emulsion.

(i) Aggregate proportions are approximate; due to gradation changes, the Contractor may increase proportions by no greater than 5% by weight of total aggregate if reducing coarse aggregate by an equivalent volume.

(j) Aggregate weights specified in the table are based on a dry bulk specific gravity of 2.65 for gravel and stone. Adjust the weights if the specific gravity of the materials used varies by more than 0.02 from the specified values.

INDEX OF SHEETS

- 1 COVER SHEET
- 2 LOCATION MAP
- 3 MISCELLANEOUS QUANTITIES SHEET
- 4-6 ALIGNMENT & CONTROL SHEETS
- 7-8 TYPICAL SHEETS
- 9 DETAIL SHEET
- 10-15 CONSTRUCTION SHEETS
- 16-60 REMOVAL, CONSTRUCTION, & PROFILE SHEETS
- 61-68 PAVEMENT MARKING AND SIGNING SHEETS
- 69 MAINTAINING TRAFFIC SHEET
- 70-71 SOIL BORING SHEET

UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER HAS NOT BEEN ADVISED NOT TO BELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SHOWN AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

- ELECTRIC
 - MIDLAND COUNTY ROAD COMMISSION
 - 2334 NORTH MERIDIAN ROAD
 - SANFORD, MICHIGAN 48857
 - CONTACT: MIKE DOMMS
 - TELEPHONE: 989-687-5988
- WATER
 - CITY OF MIDLAND
 - 100 WEST MAIN STREET
 - MIDLAND, MI 48840
 - CONTACT: TOM HOBLET
 - TELEPHONE: 989-837-3515
- CABLE
 - CHARTER COMMUNICATIONS
 - 14257 FARMINGTON ROAD
 - LIVONIA, MI 48154
 - CONTACT: JAMES DELUISI
 - TELEPHONE: 586-746-6684
- TELEPHONE AND FIBER
 - 502 BEACH STREET
 - 100 WEST MAIN STREET
 - MIDLAND, MI 48840
 - CONTACT: MICHAEL BAZ
 - TELEPHONE: 989-277-7943

M.D.O.T. STANDARD PLANS

(* SPECIAL DETAILS WILL BE INCLUDED IN PROPOSAL)

- PLAN NO. TITLE
- R-7-G COVER G
- R-7-J COVER J
- R-11-E MONUMENT BOXES
- R-12-E COVER C
- R-29-E DRIVEWAY APPROACHES AND CONCRETE SIDEWALK
- R-30-E DRIVEWAY SHOULDER CUTTERS AND SIDEWALK
- R-80-J GUARDRAIL TYPES A, B, T, D, MS-8, & MS-80
- R-82-H GUARDRAIL APPROACH TERMINAL, TYPE 2M
- R-85-E GUARDRAIL DEPARTING TERMINAL, TYPES B, T & MS
- R-86-F GRANULAR BLANKET UNDERDRAIN OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS
- R-82-D BEDDING AND FILLING AROUND PIPE CULVERTS
- R-83-C UTILITY TRENCHES
- R-84-E CULVERT SLOPED END SECTION
- R-88-E STEEP SLOPED END SECTION
- R-95-G CULVERT SLOPED END SECTION FOR PIPE CULVERT
- R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
- R-100-I SEEDING AND TREE PLANTING
- R-101-B PAVEMENT SURFINGS
- R-110-B PAVEMENT SAFETY EDGE
- R-112-J SHOULDER AND CENTER LINE CORRUGATIONS
- 21 GUARDRAIL AT INTERSECTIONS

M.D.O.T. STANDARD PLANS

- PLAN NO. TITLE
- SN-100-G SIGN POST SIGN INSTALLATIONS
- SN-120-F ROADSIDE SIGN LOCATIONS & SUPPORT SPACING
- SN-140-A PLACEMENT OF D3-1 SIGNS ABOVE R1-1
- SN-150-D SIGN SUPPORT SELECTION CHARTS
- SN-200-L SIGN POST SIGN SELECTION CHARTS
- SN-300-G SIGN POST SIGN SELECTION CHARTS
- PAVE-904-B TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT
- PAVE-905-E LONGITUDINAL LINE TYPES AND PLACEMENT
- PAVE-930-D PAVEMENT MARKINGS FOR NON-SIGNALIZED INTERSECTIONS
- PAVE-940-D PAVEMENT MARKINGS FOR SIGNALIZED INTERSECTIONS
- PAVE-945-D INTERSECTION, STOP BAR & CROSSWALK MARKINGS

MIDLAND COUNTY ROAD COMMISSION

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

EASTMAN ROAD WIDENING AND REHABILITATION

T16N - R2E, SECTIONS 16, 17, 20, 21, 28, 29

LARKIN TOWNSHIP, MIDLAND COUNTY

CONTROL SECTION
56000

JOB NO.
212909

TRAFFIC DATA
DESIGN ROAD
POSTED SPEED = 55 MPH
FUTURE ADT (2030) = 6,880 VEHICLES/DAY
FUTURE ADT (2044) = 12,428 VEHICLES/DAY
% COMMERCIAL = 6%

PROJECT LENGTH
IN 212909 = 2.02 MILES

STA 56+73 (P.O.B.) TO STA 163+50 (P.O.E.)

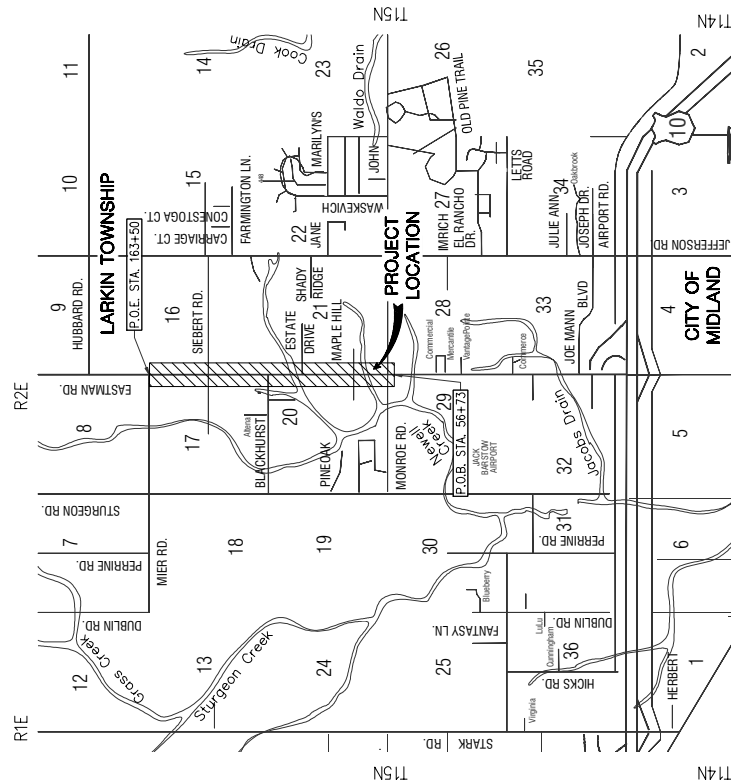
IN 212909 = 2.02 MILES

TRAFFIC DATA

DESIGN ROAD
POSTED SPEED = 55 MPH
FUTURE ADT (2030) = 6,880 VEHICLES/DAY
FUTURE ADT (2044) = 12,428 VEHICLES/DAY
% COMMERCIAL = 6%

STA 56+73 (P.O.B.) TO STA 163+50 (P.O.E.)

IN 212909 = 2.02 MILES



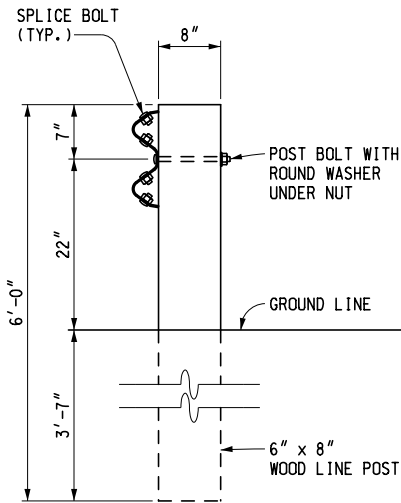
CONTRACT FOR:
2.02 MILES OF SHOULDER WIDENING, COLD MILLING HMA SURFACE, HMA PAVING,
AGGREGATE SHOULDER, DRAINAGE IMPROVEMENTS, PERMANENT PAVEMENT MARKINGS,
AND PERMANENT SIGNING.



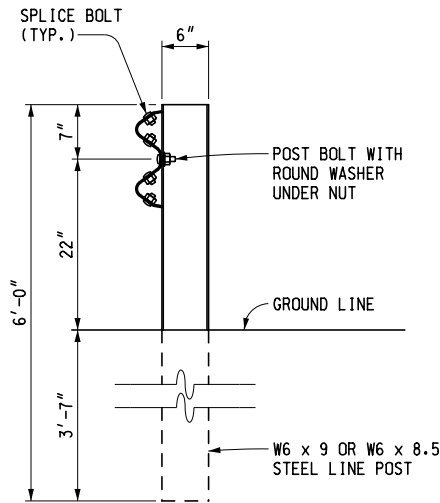
ROWE PROFESSIONAL SERVICES COMPANY
127 S. Main Street
Mt. Pleasant, MI 48858
O (989) 772-3138
F (989) 772-7757
www.rowespc.com

PROJECT: 8-02-2023 3:48 PM E:\Project\1\80085\Proj\Construction_Drawing\SP-180808-02.dwg

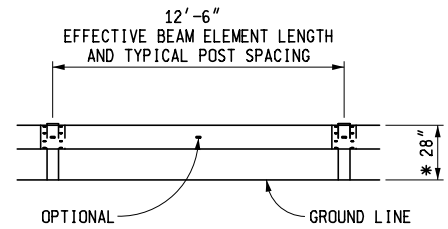




WOOD POST



STEEL POST



ELEVATION SHOWING POST SPACING
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE A



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____ 151
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

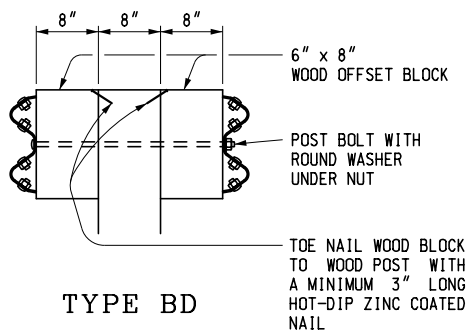
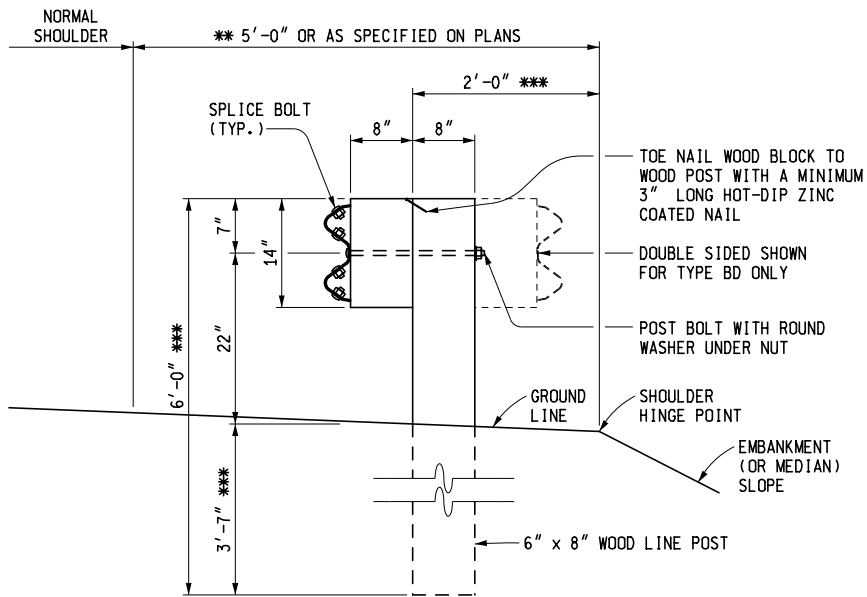
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D

F.H.W.A. APPROVAL

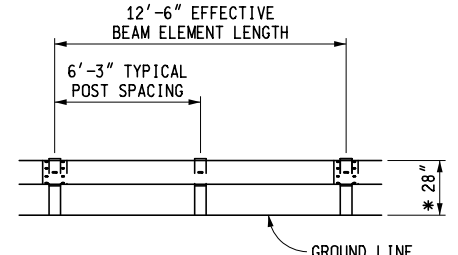
12-3-2021
PLAN DATE

R-60-J

SHEET
1 OF 16



TYPE BD

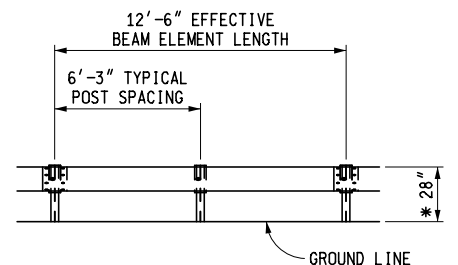
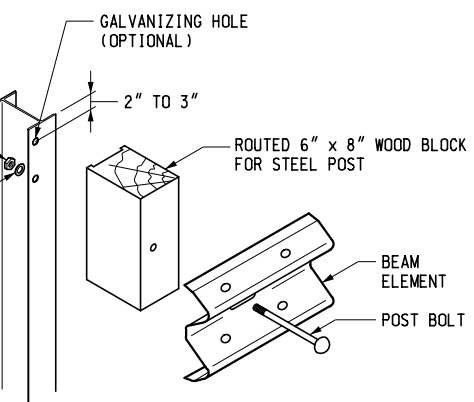
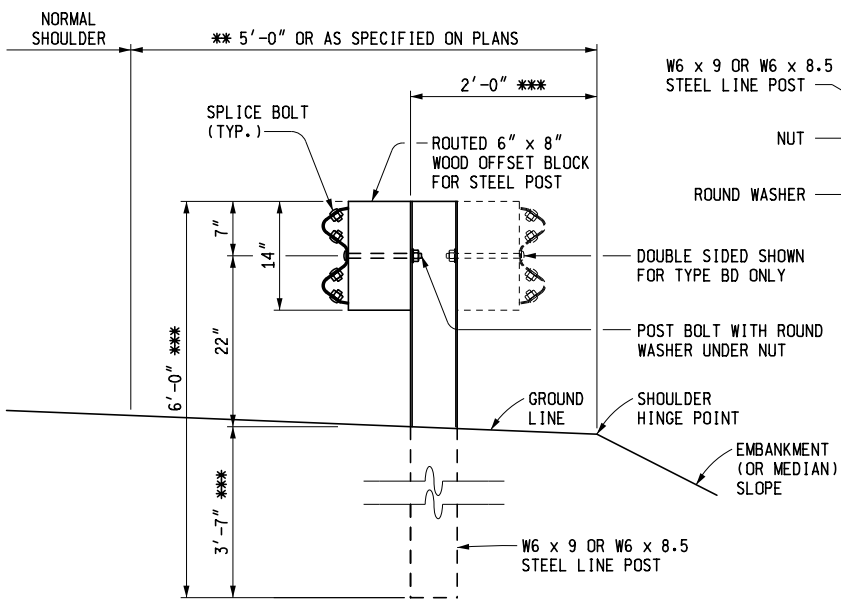


ELEVATION SHOWING POST SPACING

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".
 *** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

GUARDRAIL, TYPE B (OR BD)
 (WOOD POST)



ELEVATION SHOWING POST SPACING

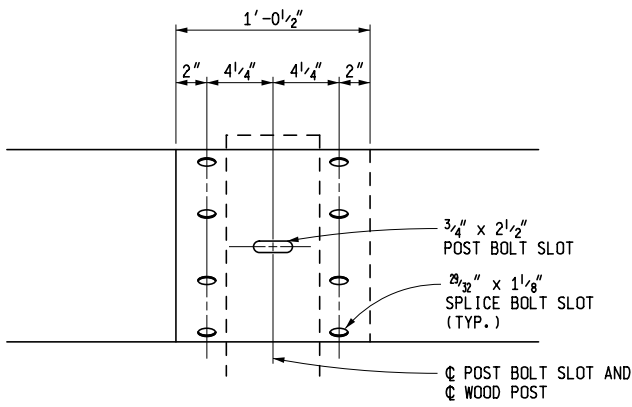
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".
 *** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

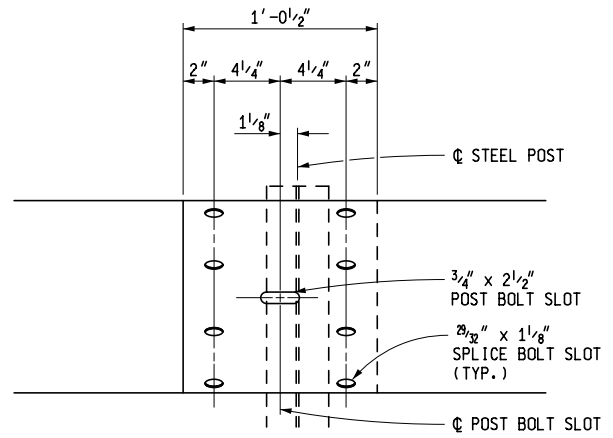
GUARDRAIL, TYPE B (OR BD)
 (STEEL POST)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
 TYPES A, B, BD, T, TD,
 MGS-8, & MGS-8D**

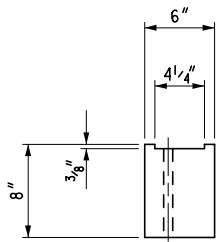


WOOD POST

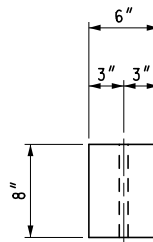


STEEL POST

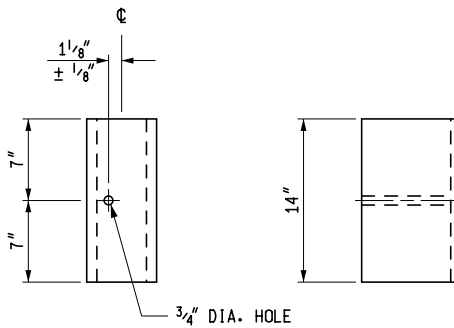
BEAM ELEMENT SPLICE DETAILS



TOP



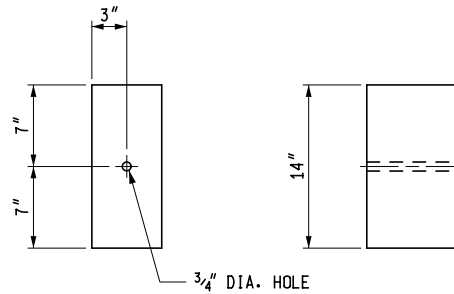
TOP



FRONT

SIDE

FOR USE ON STEEL POSTS



FRONT

SIDE

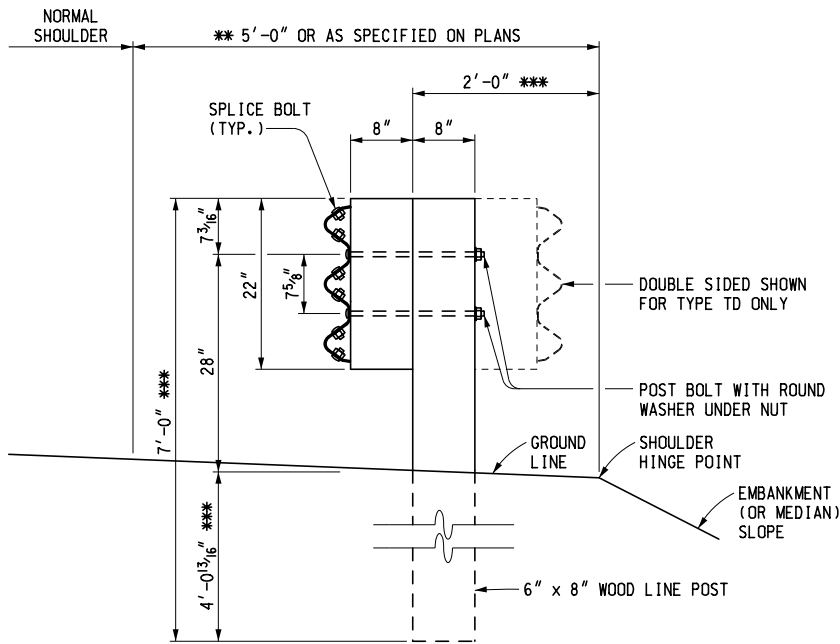
FOR USE ON WOOD POSTS

(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE B AND TYPE BD

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

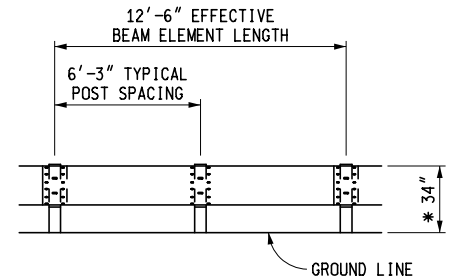
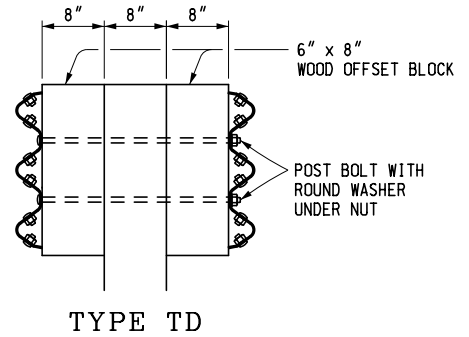
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".

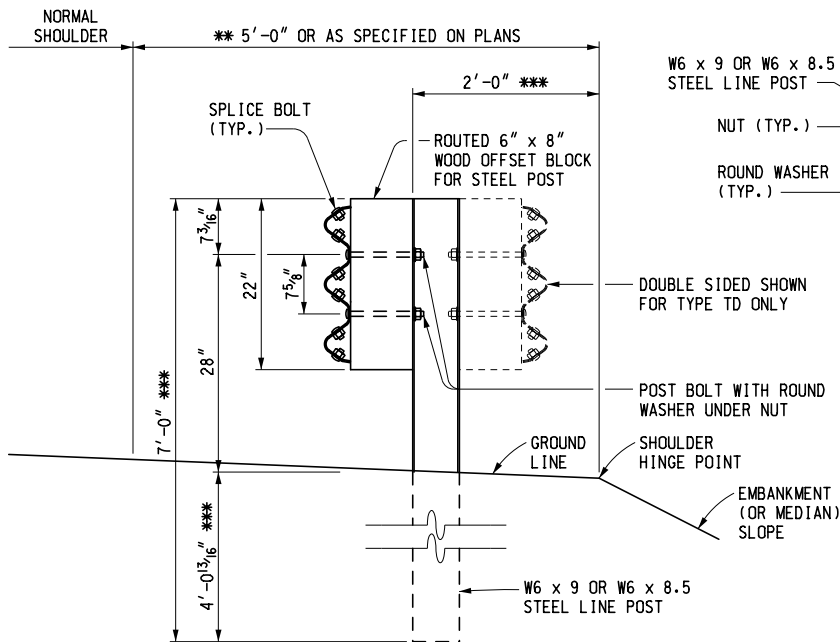
*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

GUARDRAIL, TYPE T (OR TD)
(WOOD POST)



ELEVATION SHOWING POST SPACING

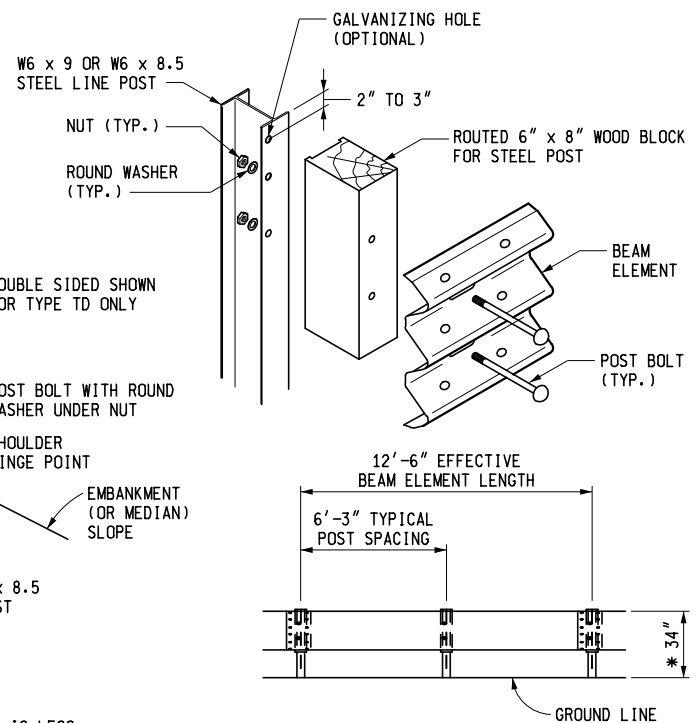
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".

*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

GUARDRAIL, TYPE T OR TD
(STEEL POST)

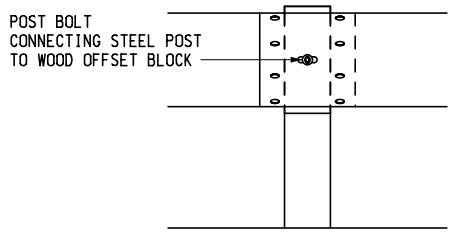


ELEVATION SHOWING POST SPACING

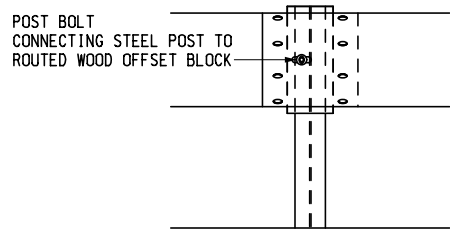
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

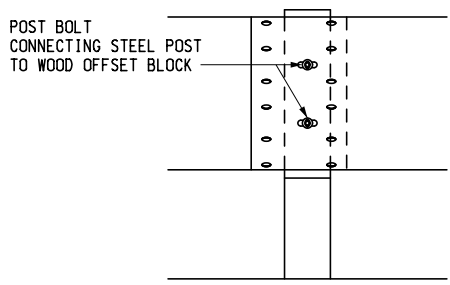
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D



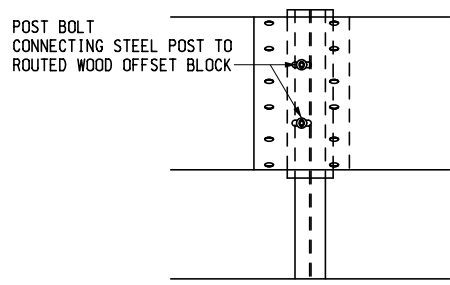
GUARDRAIL, TYPE B
WOOD POST



GUARDRAIL, TYPE B
STEEL POST



GUARDRAIL, TYPE T
WOOD POST



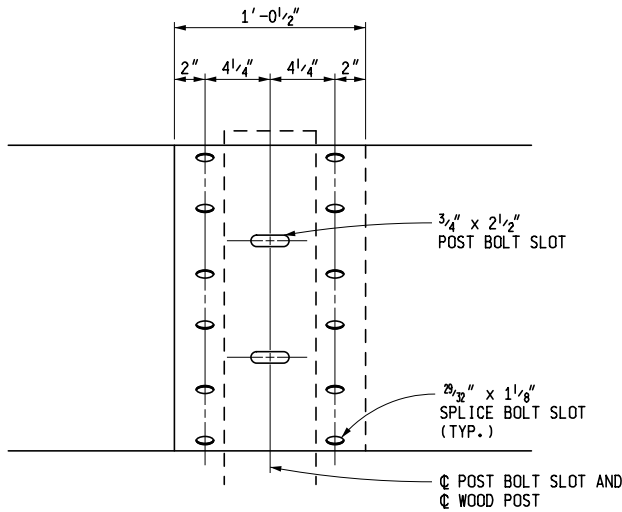
GUARDRAIL, TYPE T
STEEL POST

BLOCK AND POST CONNECTION DETAILS

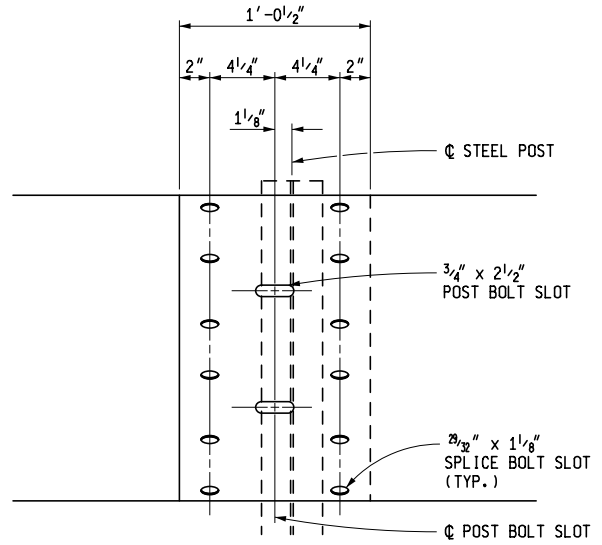
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D

F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 5 OF 16
-------------------	------------------------	--------	------------------

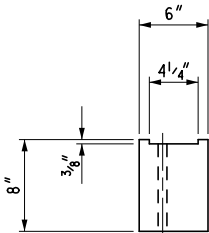


WOOD POST

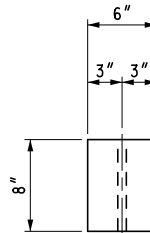


STEEL POST

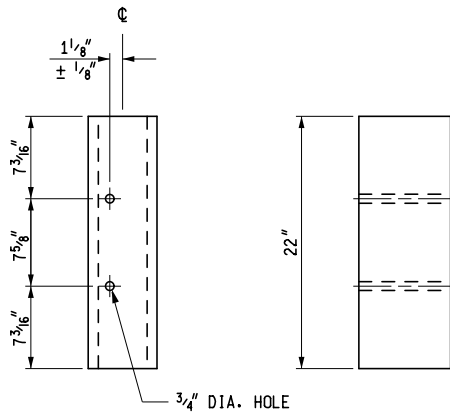
THREE BEAM ELEMENT SPLICE DETAILS



TOP



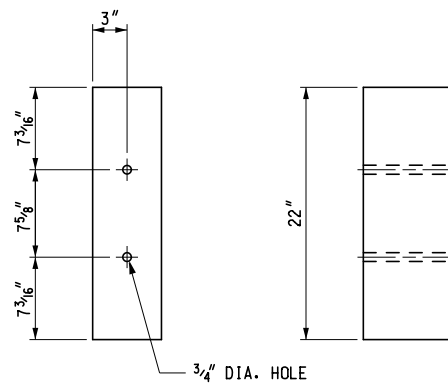
TOP



FRONT

SIDE

FOR USE ON STEEL POSTS



FRONT

SIDE

FOR USE ON WOOD POSTS

(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE T AND TYPE TD

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

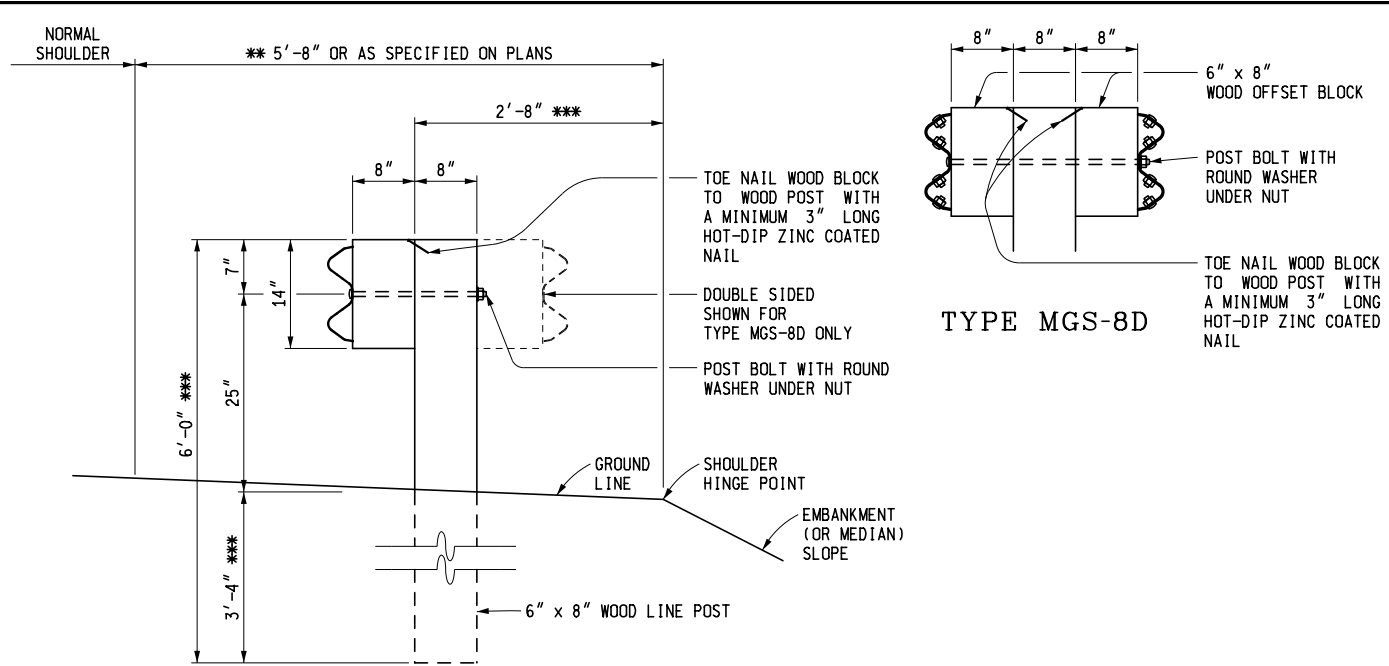
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

12-3-2021
PLAN DATE

R-60-J

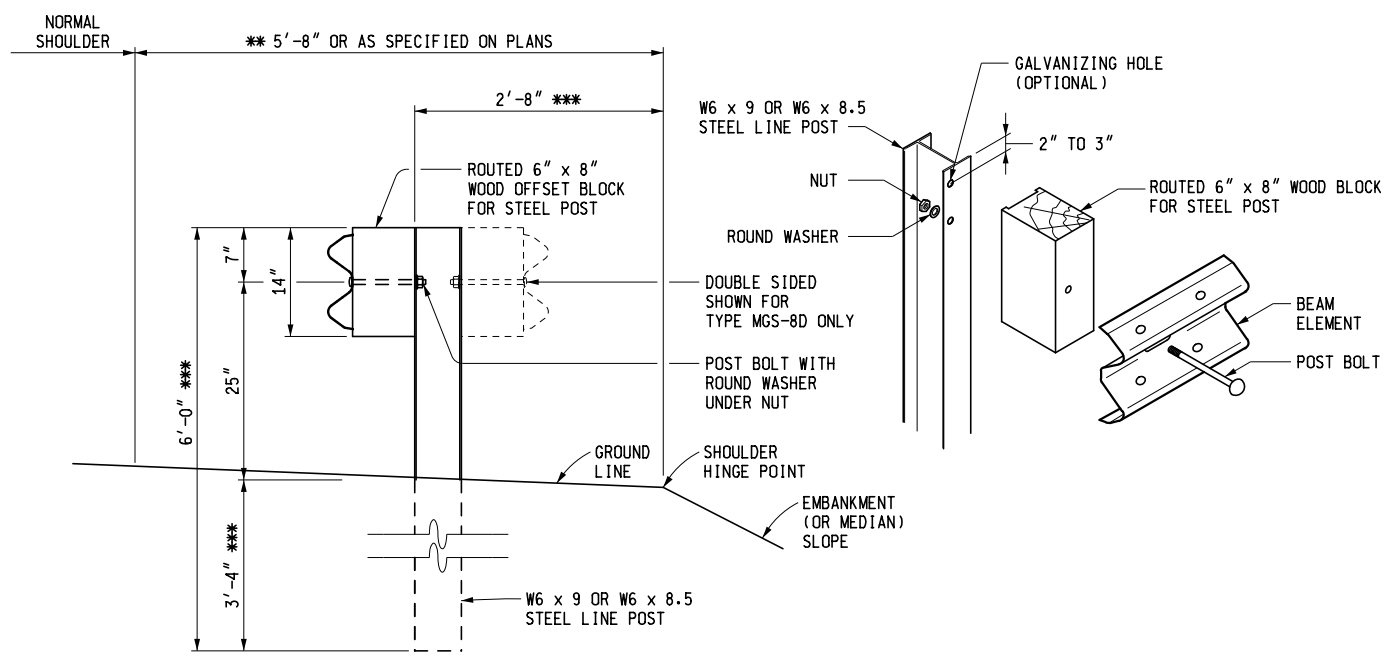
SHEET
6 OF 16



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-8".

*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-8" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 9'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

GUARDRAIL, TYPE MGS-8 (OR MGS-8D)
(WOOD POST)



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-8".

*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-8" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 9'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

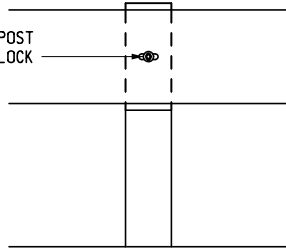
GUARDRAIL, TYPE MGS-8 (OR MGS-8D)
(STEEL POST)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

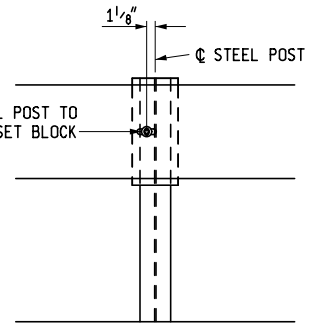
157	F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 7 OF 16
-----	-------------------	------------------------	--------	------------------

POST BOLT
CONNECTING WOOD POST
TO WOOD OFFSET BLOCK



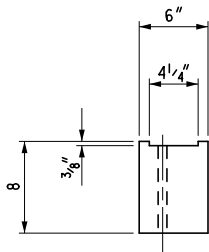
WOOD POST

POST BOLT
CONNECTING STEEL POST TO
ROUTED WOOD OFFSET BLOCK

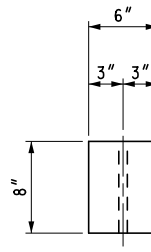


STEEL POST

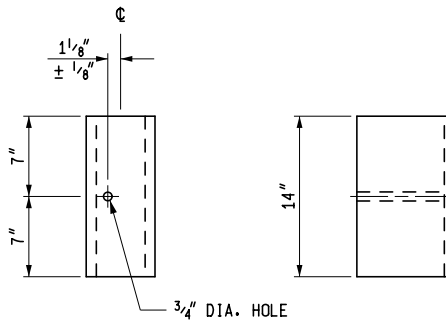
BLOCK AND POST CONNECTION DETAILS



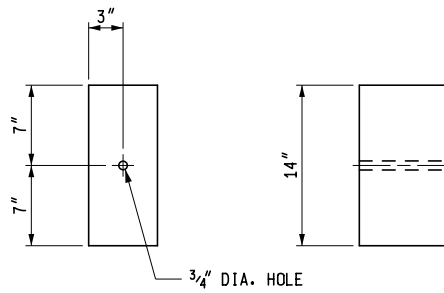
TOP



TOP



FRONT SIDE
FOR USE ON STEEL POSTS



FRONT SIDE
FOR USE ON WOOD POSTS
(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE MGS-8 AND TYPE MGS-8D

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

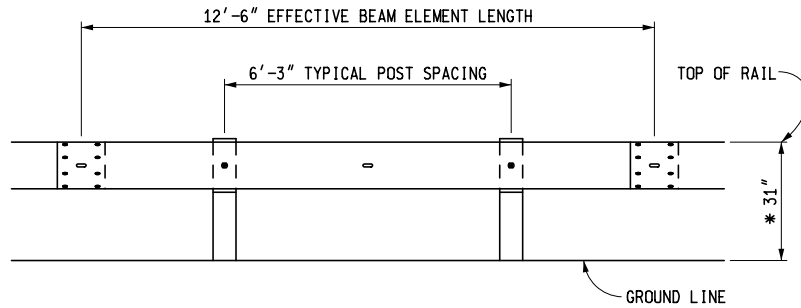
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D

F.H.W.A. APPROVAL

12-3-2021
PLAN DATE

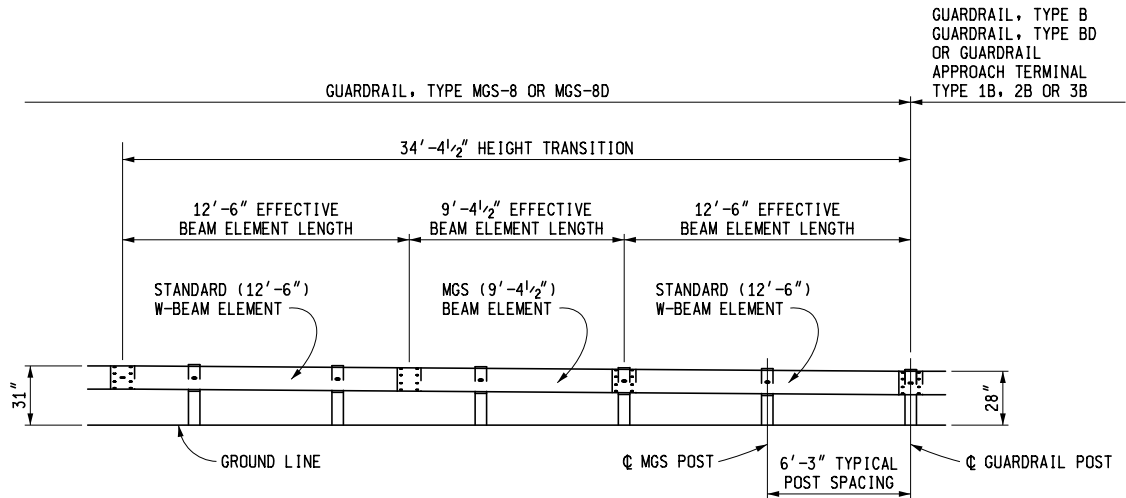
R-60-J

SHEET
8 OF 16



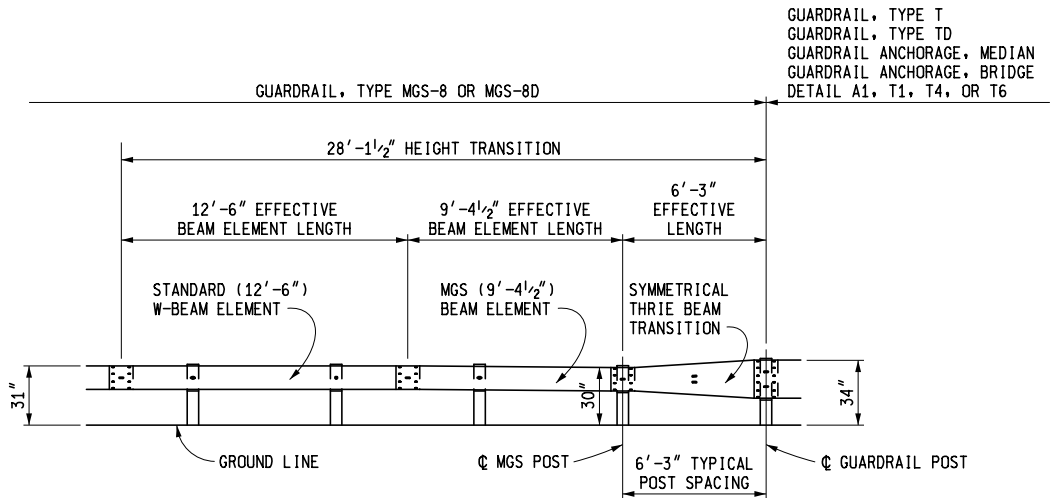
ELEVATION SHOWING POST SPACING FOR
GUARDRAIL, TYPE MGS-8 OR MGS-8D

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB



ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE B, GUARDRAIL, TYPE BD, OR
GUARDRAIL APPROACH TERMINAL TYPE 1B, 2B, OR 3B

GUARDRAIL, TYPE B
GUARDRAIL, TYPE BD
OR GUARDRAIL
APPROACH TERMINAL
TYPE 1B, 2B OR 3B



ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE T, GUARDRAIL, TYPE TD,
GUARDRAIL ANCHORAGE, MEDIAN,
GUARDRAIL ANCHORAGE, BRIDGE DETAIL A1, T1, T4 OR T6

GUARDRAIL, TYPE T
GUARDRAIL, TYPE TD
GUARDRAIL ANCHORAGE, MEDIAN
GUARDRAIL ANCHORAGE, BRIDGE
DETAIL A1, T1, T4, OR T6

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

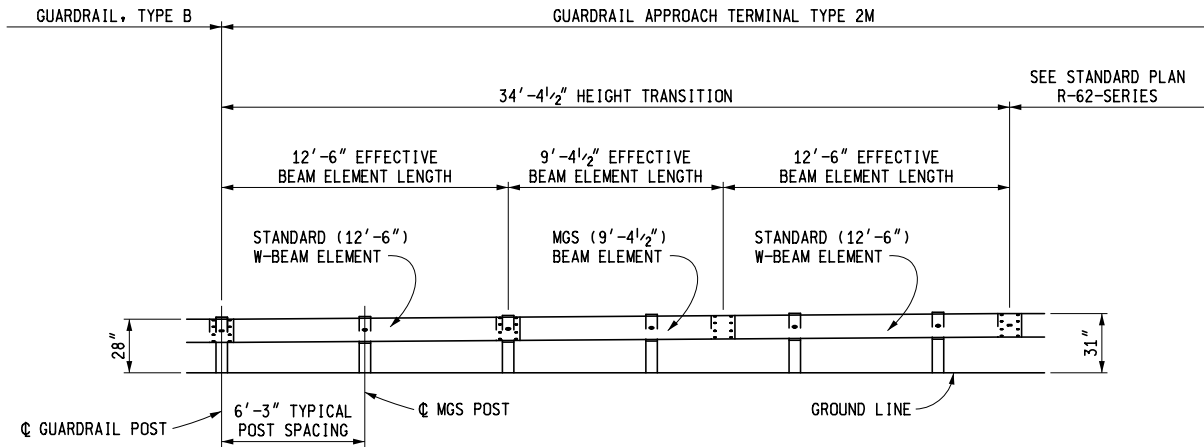
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

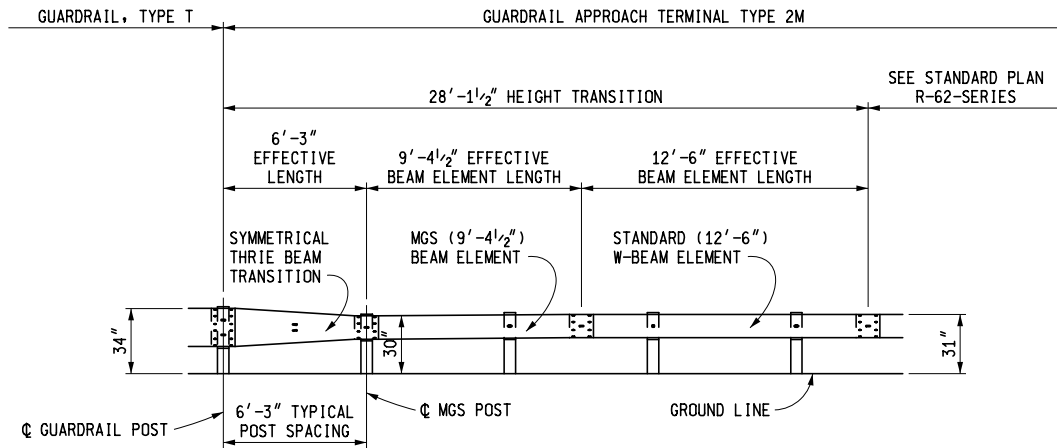
12-3-2021
PLAN DATE

R-60-J

SHEET
9 OF 16



ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
 GUARDRAIL, TYPE B TO
 GUARDRAIL APPROACH TERMINAL TYPE 2M

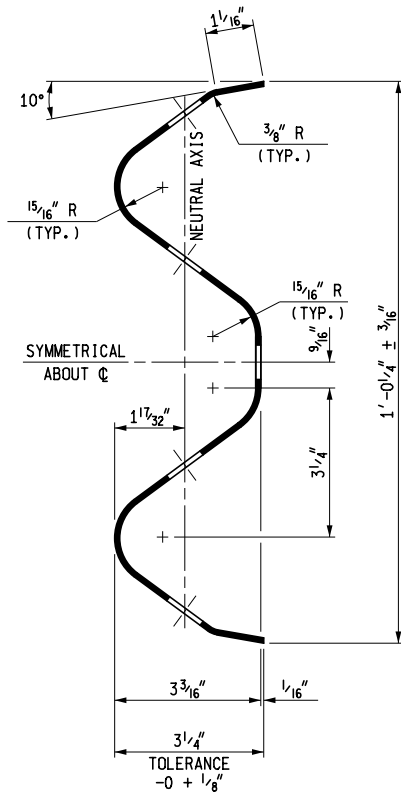


ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
 GUARDRAIL, TYPE T TO
 GUARDRAIL APPROACH TERMINAL TYPE 2M

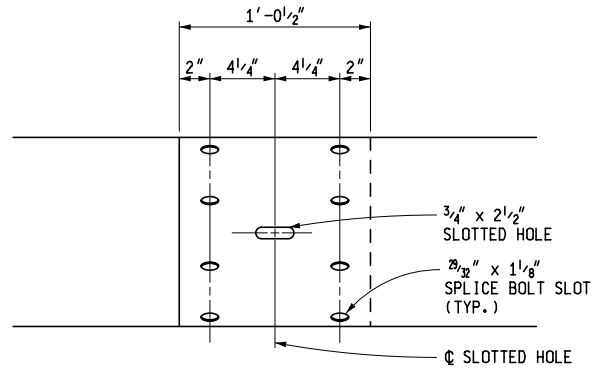
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
 TYPES A, B, BD, T, TD,
 MGS-8, & MGS-8D**

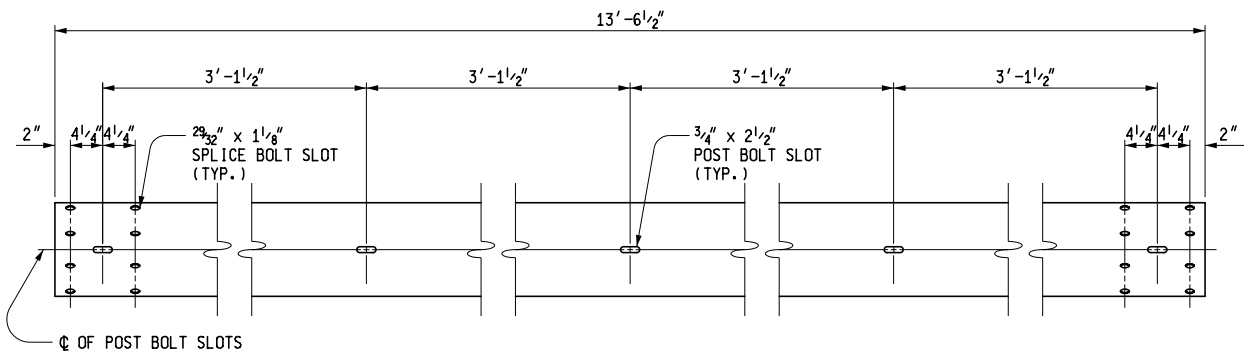
F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 10 OF 16
-------------------	------------------------	--------	-------------------



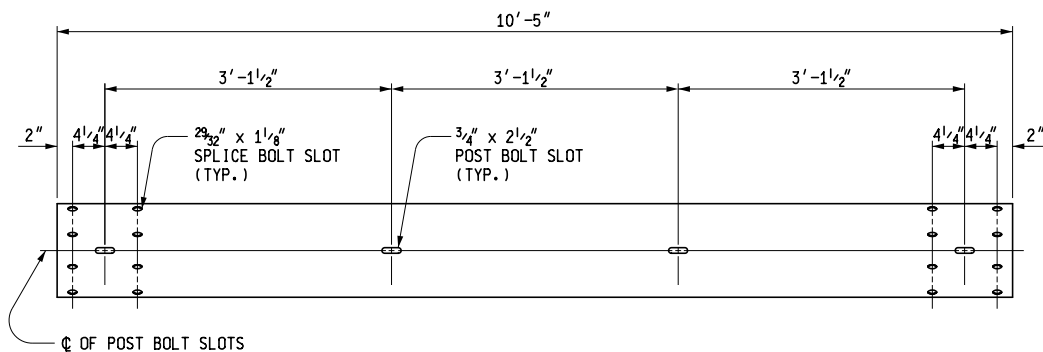
SECTION THROUGH BEAM ELEMENT



BEAM ELEMENT SPLICE DETAILS



FRONT ELEVATION OF BEAM ELEMENT



FRONT ELEVATION OF MGS (9'-4 1/2") BEAM ELEMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

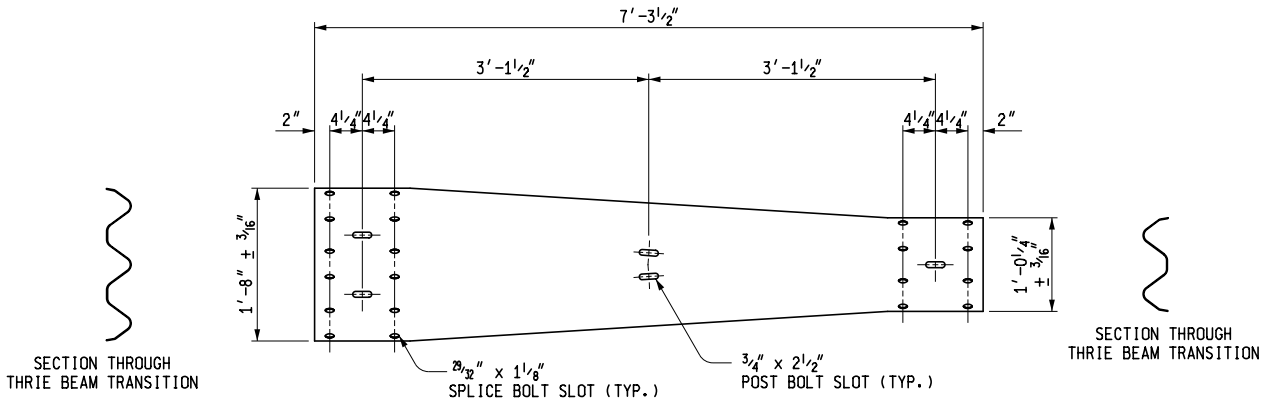
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

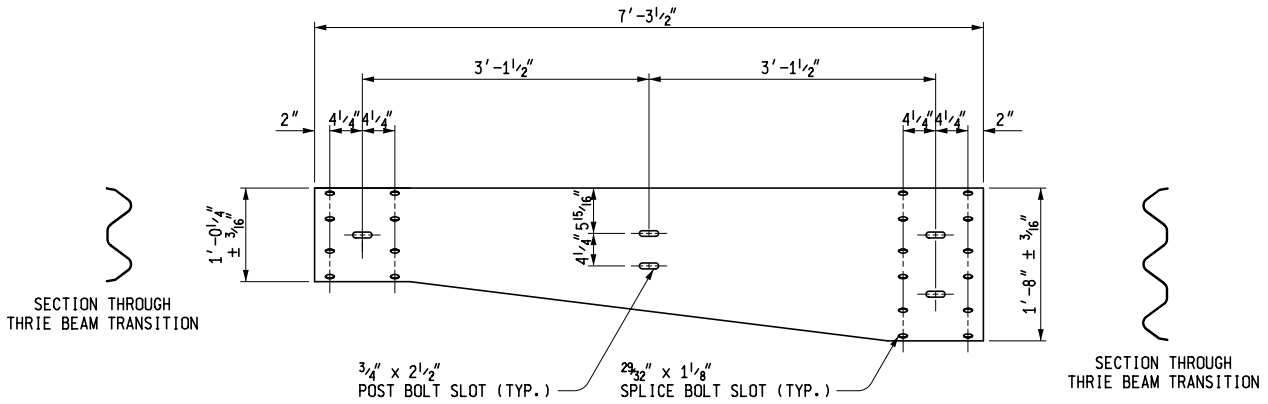
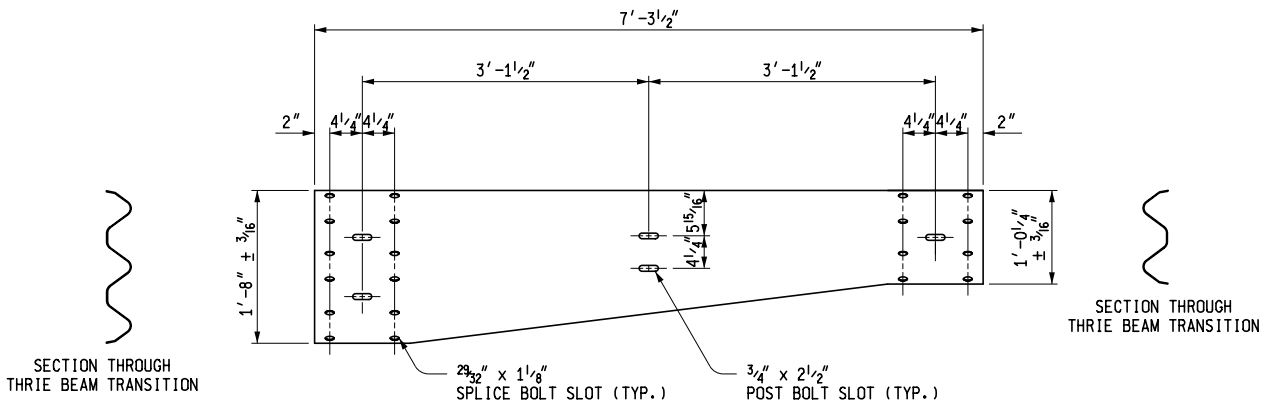
12-3-2021
PLAN DATE

R-60-J

SHEET
11 OF 16



SYMMETRICAL THRIE BEAM TRANSITIONS



ASYMMETRICAL THRIE BEAM TRANSITIONS

NOTE: ASYMMETRICAL TRANSITION TYPE WILL VARY BY LOCATION DEPENDING ON GUARDRAIL LAYOUT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

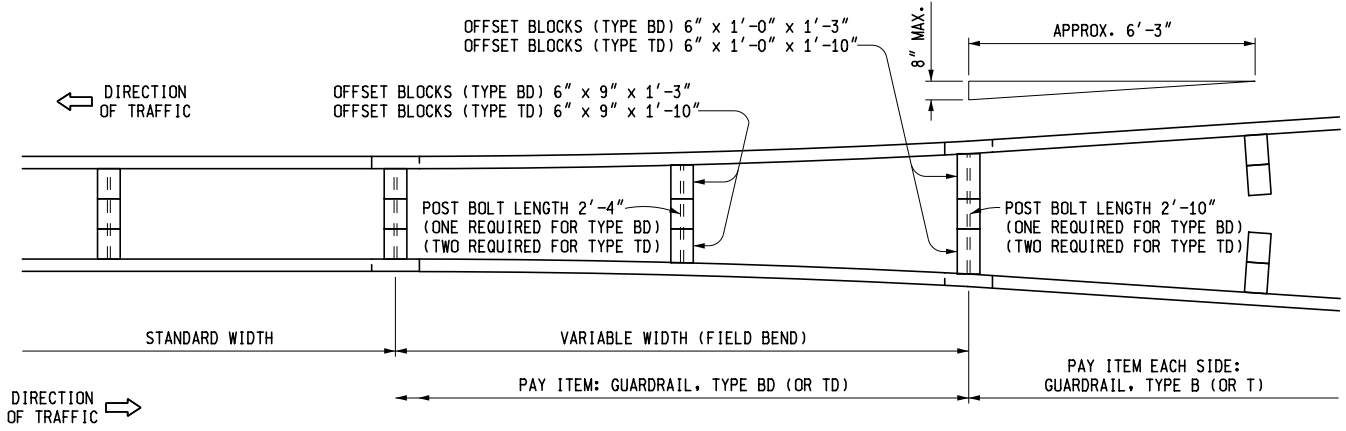
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

12-3-2021
PLAN DATE

R-60-J

SHEET
13 OF 16



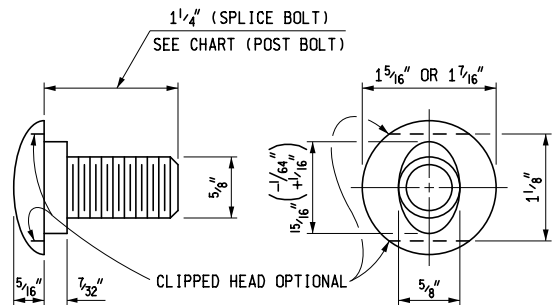
DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE B (OR TYPE T) TO GUARDRAIL, TYPE BD (OR TYPE TD)

POST BOLTS, SPLICE BOLTS AND WASHERS AT BEAM ELEMENT SPLICE POSTS AND AT INTERMEDIATE POSTS						
GUARDRAIL TYPE	POST	OFFSET BLOCK	POST BOLTS		SPLICE BOLTS (1 1/4" LONG) (NO. REQ'D)	WASHERS (ROUND) (NO. REQ'D)
			NO. REQ'D	LENGTH		
A	WOOD	N/A	1	9 1/2"	8	1
	STEEL	N/A	1	2"		
B	WOOD	WOOD	1	18"	8	1
	STEEL	WOOD	1	9 1/2"		
BD	WOOD	WOOD	1	*26 1/2"	16	2
	STEEL	WOOD	2	9 1/2"		
T	WOOD	WOOD	2	18"	12	2
	STEEL	WOOD	2	9 1/2"		
TD	WOOD	WOOD	2	*26 1/2"	24	4
	STEEL	WOOD	4	9 1/2"		

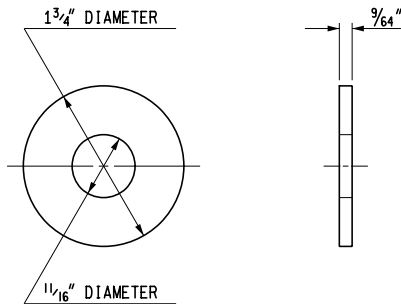
MINIMUM POST BOLT THREAD LENGTH	
BOLT LENGTH	MINIMUM THREAD LENGTH
9 1/2"	1 3/4"
18"	2 1/2"
26 1/2"	3"

THREE BEAM TRANSITIONS REQUIRE 20 SPLICE BOLTS EACH (12 ON TYPE T END AND 8 ON TYPE B END).

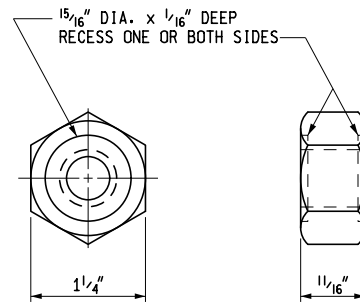
* EXCEPT AS SPECIFIED ON DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE B (OR TYPE T) TO GUARDRAIL, TYPE BD (OR TYPE TD), POST BOLTS SHALL NOT EXTEND MORE THAN 1/2" BEYOND NUT.



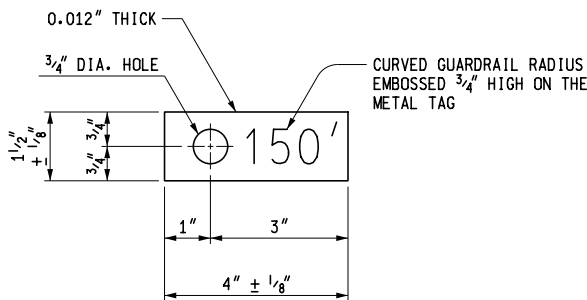
SPLICE BOLT AND POST BOLT



ROUND WASHER



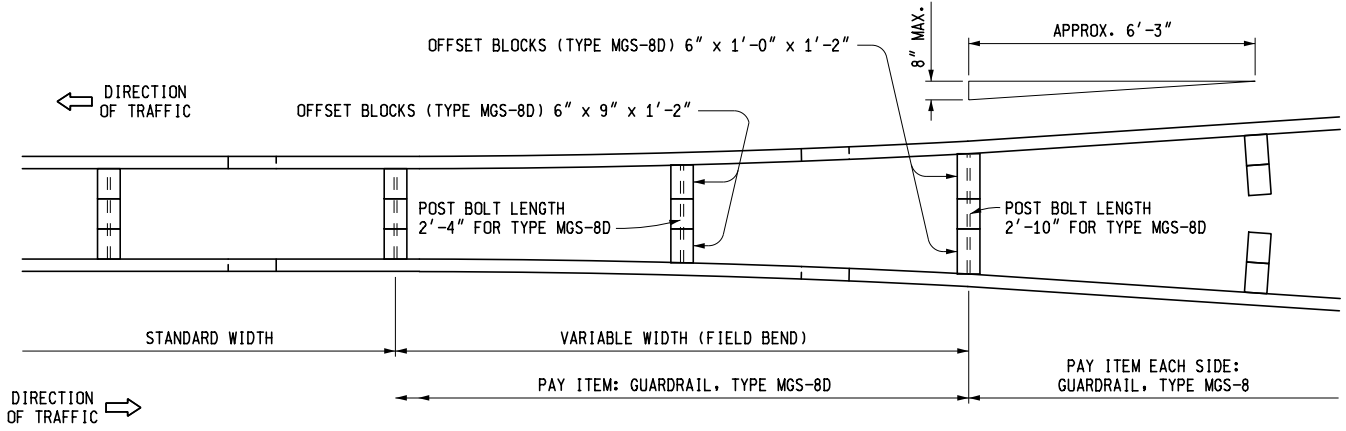
NUT



METAL TAG

FOR CURVED GUARDRAIL WITH RADIUS OF 150' OR LESS

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D			
F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 14 OF 16



**DETAIL SHOWING TRANSITION FROM
GUARDRAIL, TYPE MGS-8 TO GUARDRAIL, TYPE MGS-8D**

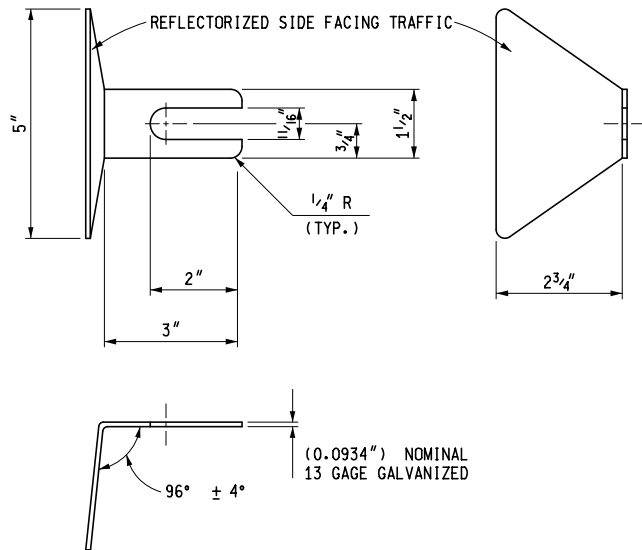
POST BOLTS, SPLICE BOLTS AND WASHERS AT BEAM ELEMENT SPLICE POSTS AND AT INTERMEDIATE POSTS						
GUARDRAIL TYPE	POST	OFFSET BLOCK	POST BOLTS		SPLICE BOLTS (1 1/4" LONG) (NO. REQ'D)	WASHERS (ROUND) (NO. REQ'D)
			NO. REQ'D	LENGTH		
MGS-8	WOOD	WOOD	1	18"	8	1
	STEEL	WOOD	1	9 1/2"		1
MGS-8D	WOOD	WOOD	1	*26 1/2"	16	—
	STEEL	WOOD	2	9 1/2"		2

MINIMUM POST BOLT THREAD LENGTH	
BOLT LENGTH	MINIMUM THREAD LENGTH
9 1/2"	1 3/4"
18"	2 1/2"
26 1/2"	3"

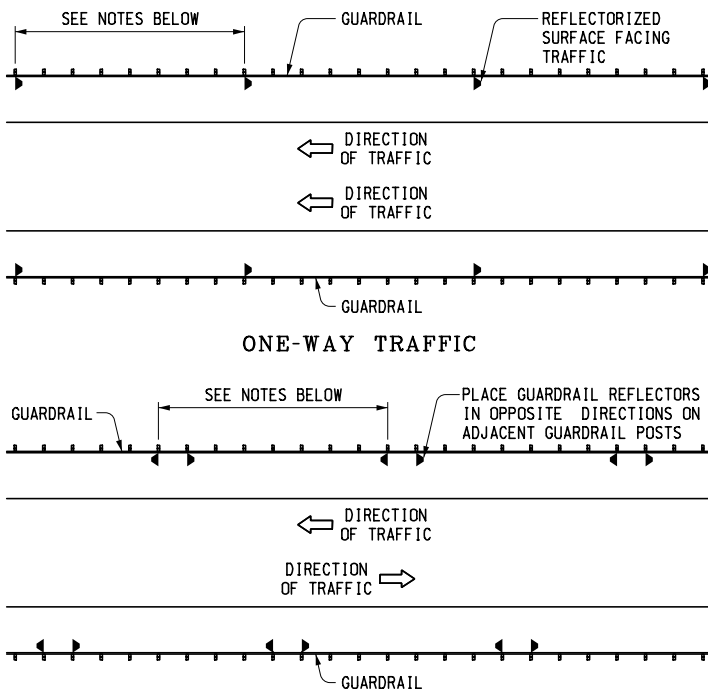
THREE BEAM TRANSITIONS REQUIRE 20 SPLICE BOLTS EACH (12 ON TYPE T END AND 8 ON TYPE MGS END).

* EXCEPT AS SPECIFIED ON DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE MGS-8 TO GUARDRAIL, TYPE MGS-8D POST BOLTS SHALL NOT EXTEND MORE THAN 1/2" BEYOND NUT.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D			
F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 15 OF 16



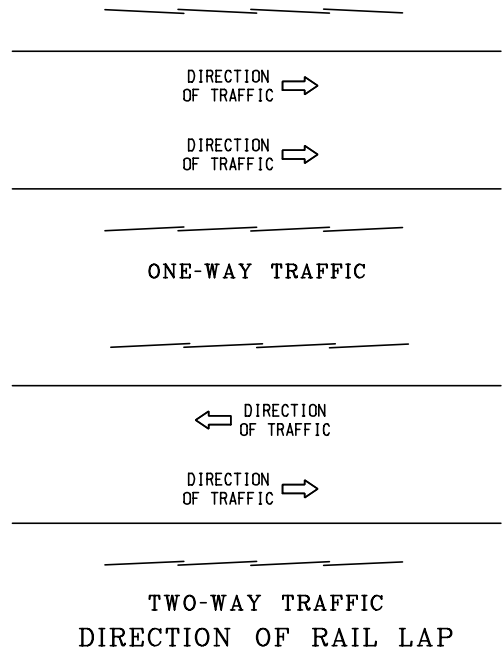
GUARDRAIL REFLECTOR



TWO-WAY TRAFFIC
PLACEMENT OF GUARDRAIL REFLECTORS

NOTES GOVERNING THE USE OF GUARDRAIL REFLECTORS

1. GUARDRAIL REFLECTORS SHALL BE USED ON ALL STANDARD GUARDRAIL RUNS, REGARDLESS OF ROADWAY LIGHTING.
2. GUARDRAIL REFLECTORS ARE TO BE SPACED AT THE FOLLOWING INTERVALS:
 - a) 50'-0" ON TANGENT SECTIONS AND CURVES WITH A RADIUS OF 1150' OR MORE.
 - b) 25'-0" ON CURVES WITH A RADIUS LESS THAN 1150'.
3. FOR GUARDRAIL REFLECTOR PLACEMENT ON APPROACH TERMINALS, SEE THE APPROPRIATE GUARDRAIL APPROACH TERMINAL STANDARD PLAN.
4. A GUARDRAIL REFLECTOR IS TO BE PLACED ON THE SECOND POST FROM THE GUARDRAIL DEPARTING TERMINAL.
5. ON GUARDRAIL, TYPE T AND TYPE TD GUARDRAIL REFLECTORS ARE TO BE PLACED ON THE UPPER POST BOLT.
6. GUARDRAIL REFLECTORS SHALL MATCH COLOR OF EDGE LINE.



TWO-WAY TRAFFIC
DIRECTION OF RAIL LAP

NOTES:

DETAILS SPECIFIED ON THIS STANDARD ARE ACCORDING TO THE AASHTO-AGC-ARTBA JOINT COMMITTEE, TASK FORCE 13 PUBLICATION TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE."

BEAM ELEMENTS SHALL BE SHOP BENT TO PLAN RADIUS FOR CURVE RADIUS 150' OR LESS. A TAG IDENTIFYING THE CURVATURE OF THE SHOP BENT SECTION WILL BE REQUIRED FOR EACH CURVED ELEMENT.

SEE STANDARD PLAN R-62-SERIES OR R-63-SERIES FOR GUARDRAIL APPROACH TERMINALS, STANDARD PLAN R-66-SERIES FOR GUARDRAIL DEPARTING TERMINALS AND STANDARD PLAN R-67-SERIES FOR GUARDRAIL ANCHORAGE, BRIDGE.

WOOD POSTS WITH 1/2" BEVELS AT THE TOP MAY BE USED IN LIEU OF WOOD POSTS WITHOUT BEVELS SPECIFIED. THE LENGTH, WIDTH AND DEPTH OF THE POST SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT.

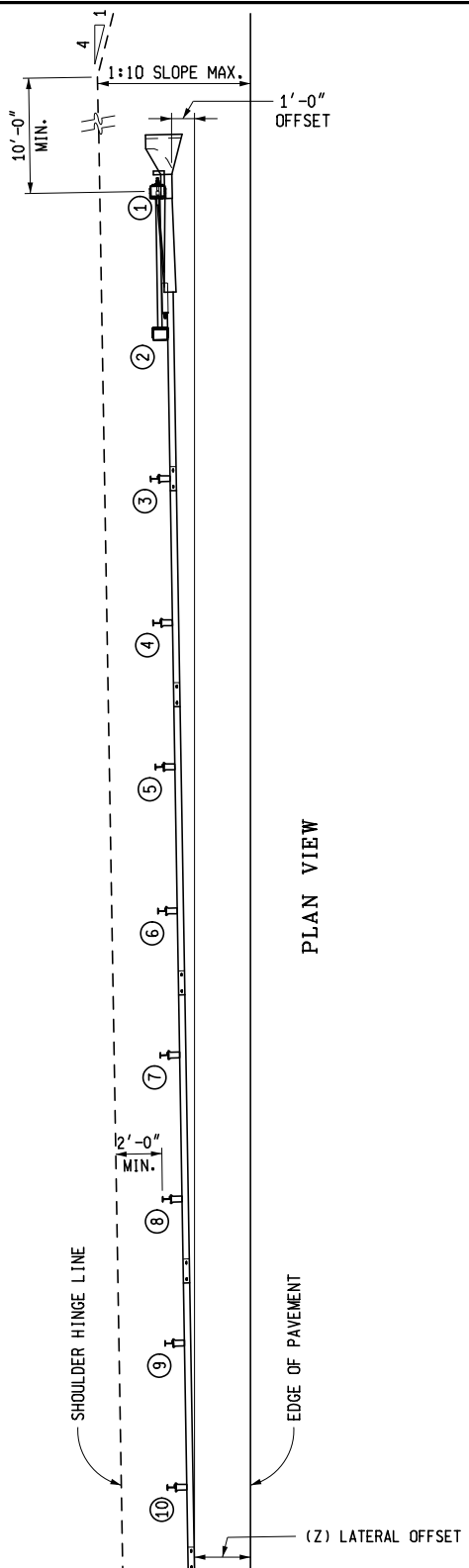
WOOD OFFSET BLOCKS WITH 1/2" BEVELS AT THE TOP AND BOTTOM OR A 1" BEVELED TOP MAY BE USED IN LIEU OF WOOD BLOCKS WITHOUT BEVELS SPECIFIED. THE LENGTH (FRONT AND BACK FACE), WIDTH AND DEPTH OF THE BLOCK SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT AND COMPATIBILITY WITH POST HOLES.

WHEN THE FACE OF GUARDRAIL IS PLACED FLUSH WITH FACE OF CURB, THE RAIL HEIGHT SHOULD BE MEASURED FROM THE FRONT EDGE OF THE GUTTER PAN, WHICH IS THE POINT ON THE GUTTER PAN THAT IS CLOSEST TO THE EDGE OF THE TRAVELED LANE. WHEN THE FACE OF THE GUARDRAIL PANEL IS LOCATED BEHIND THE CURB THE RAIL HEIGHT SHOULD BE MEASURED FROM THE GROUND JUST IN FRONT OF THE GUARDRAIL.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

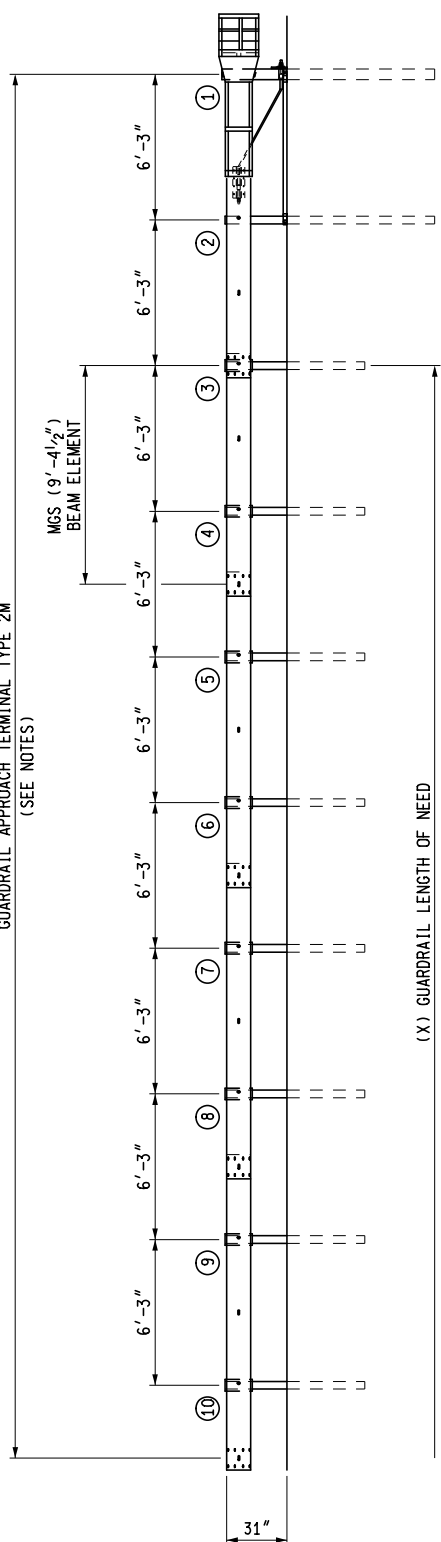
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D

F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 16 OF 16
-------------------	------------------------	--------	-------------------



PLAN VIEW

59' -4 1/2"
GUARDRAIL APPROACH TERMINAL TYPE 2M
(SEE NOTES)



ELEVATION
GUARDRAIL APPROACH TERMINAL TYPE 2M
"MSKT"

OPTION 1



PREPARED BY
DESIGN DIVISION
DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT 167

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

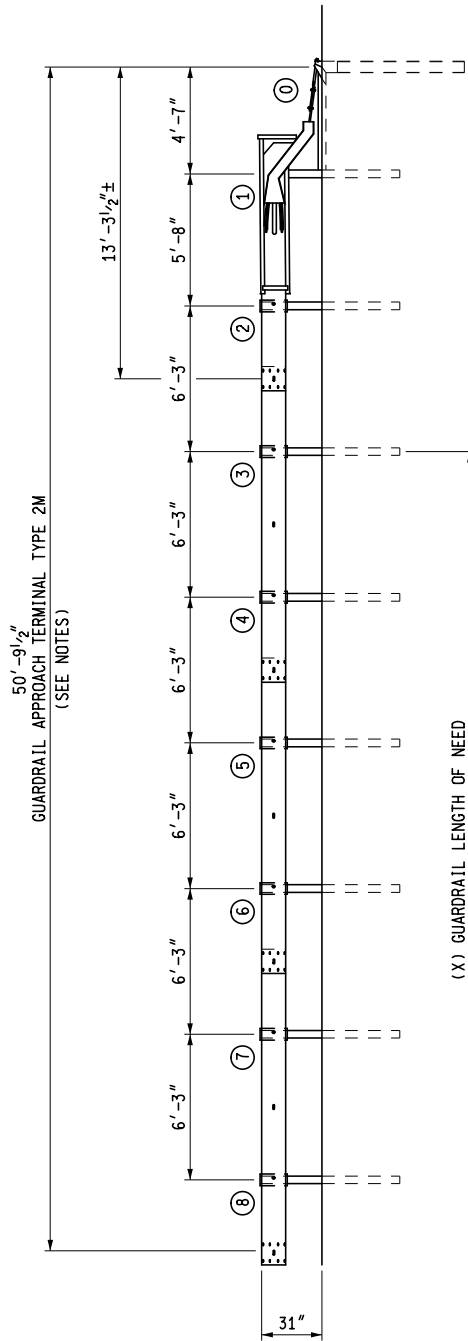
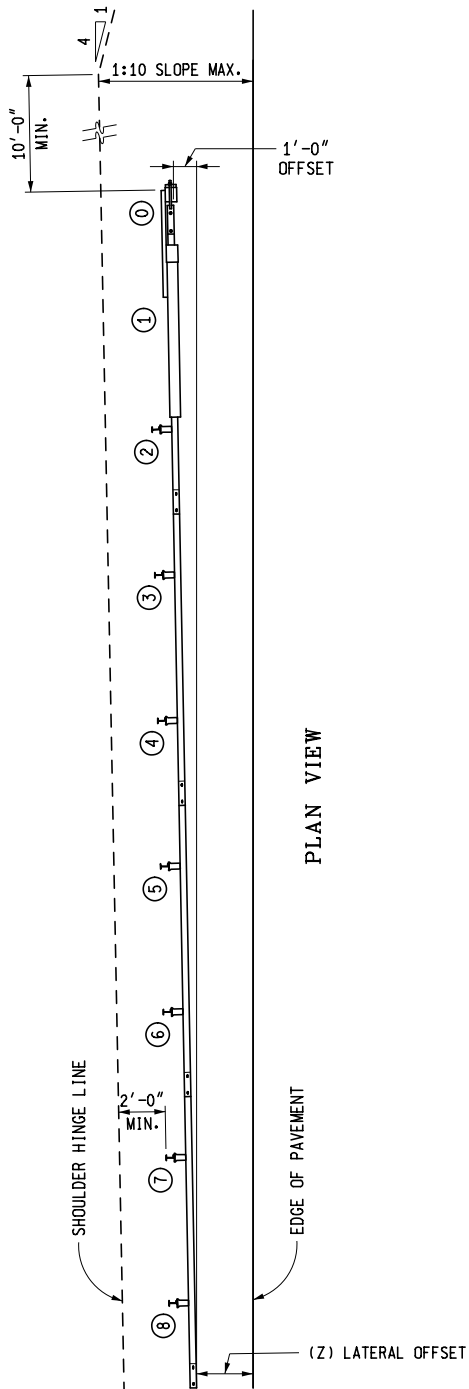
GUARDRAIL APPROACH
TERMINAL TYPE 2M

F.H.W.A. APPROVAL

6-16-2022
PLAN DATE

R-62-H

SHEET
1 OF 4

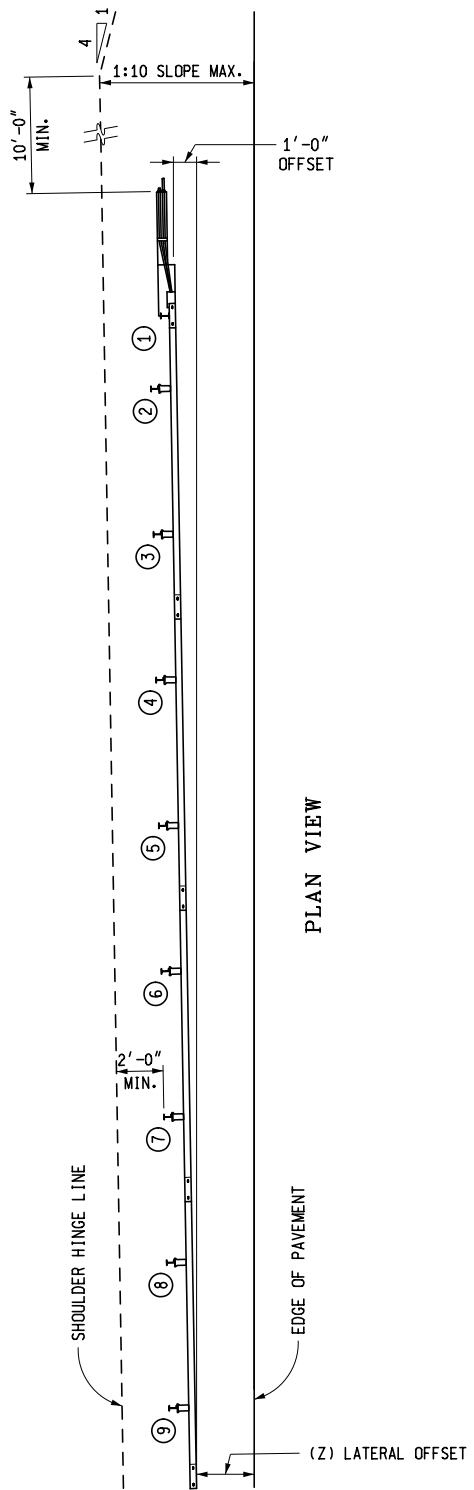


GUARDRAIL APPROACH TERMINAL TYPE 2M
"SOFT-STOP"

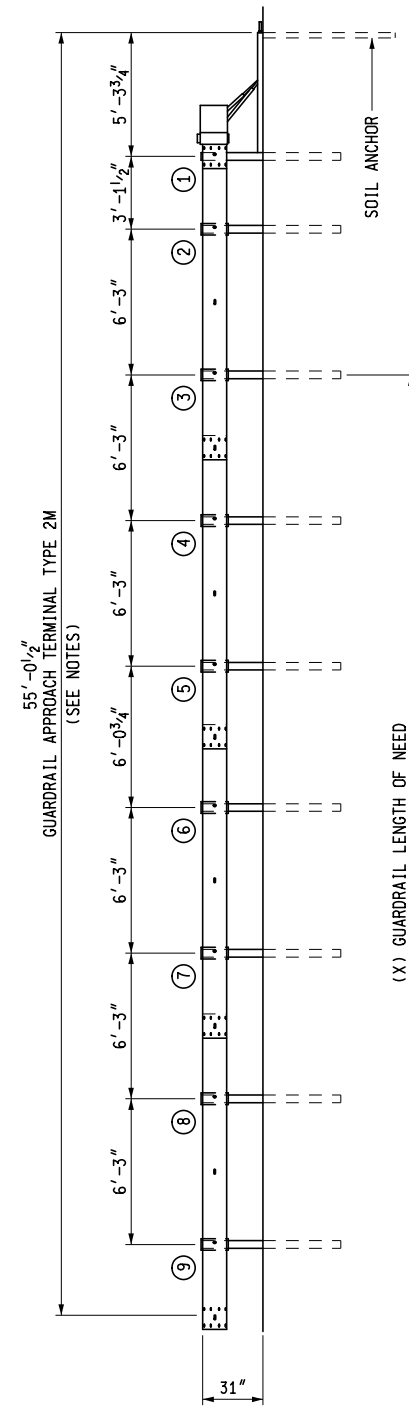
OPTION 2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL APPROACH
TERMINAL TYPE 2M**



PLAN VIEW



ELEVATION
 GUARDRAIL APPROACH TERMINAL TYPE 2M
 "MAX-TENSION"

OPTION 3

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR		
<h2 style="margin: 0;">GUARDRAIL APPROACH TERMINAL TYPE 2M</h2>		
F.H.W.A. APPROVAL	6-16-2022 PLAN DATE	R-62-H
		SHEET 3 OF 4

NOTES:

SEE STANDARD PLAN R-60-SERIES FOR ADDITIONAL TRANSITION LENGTHS WHEN ATTACHING TERMINALS TO OTHER THAN TYPE MGS-8 GUARDRAIL.

ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL CONFORM TO THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.

ALL 1:10 SLOPES SHALL BE GRADED TO CLASS A SLOPE TOLERANCES.

WHEN SITE CONDITIONS WARRANT AND WITH THE APPROVAL OF THE ENGINEER, GUARDRAIL APPROACH TERMINAL TYPE 2M CAN BE INSTALLED STRAIGHT (WITHOUT THE 1'-0" OFFSET FROM THE TANGENT LINE TO THE TRAFFIC FACE OF POST 1).

GUARDRAIL REFLECTORS AND OTHER ATTACHMENTS ARE NOT TO BE USED ON THE GUARDRAIL APPROACH TERMINAL. PLACE REFLECTORS BEGINNING ON STANDARD RUN OF GUARDRAIL.

USE REFLECTIVE SHEETING ACCORDING TO THE FOLLOWING TRAFFIC CONDITIONS: (NOTE: ALTERNATE 3" BLACK AND 3" YELLOW STRIPES ON A 45° ANGLE)



TRAFFIC PASSING ON THE LEFT SIDE



TRAFFIC PASSING ON BOTH SIDES

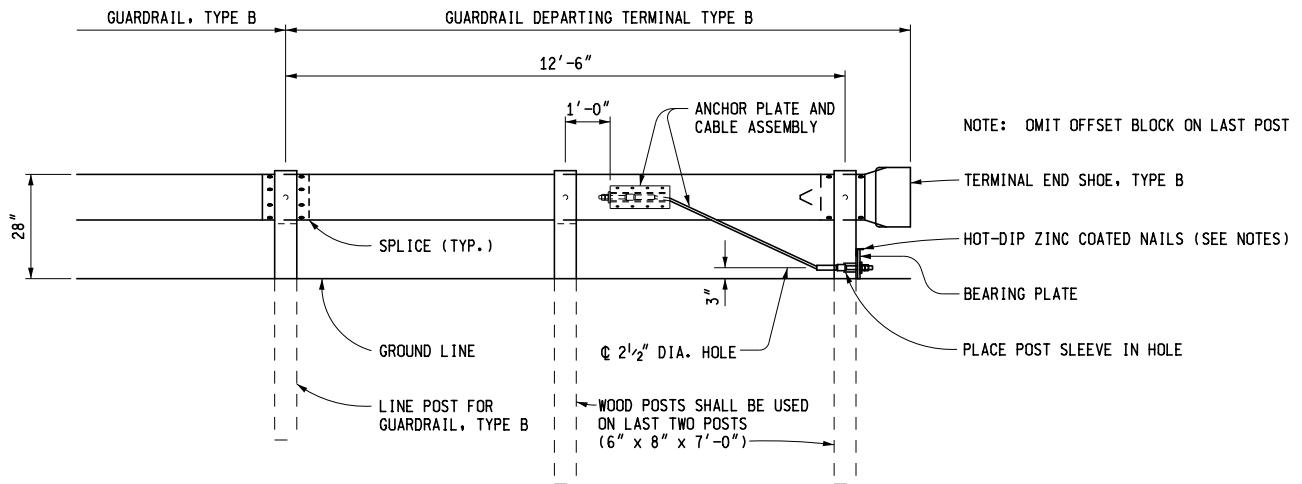
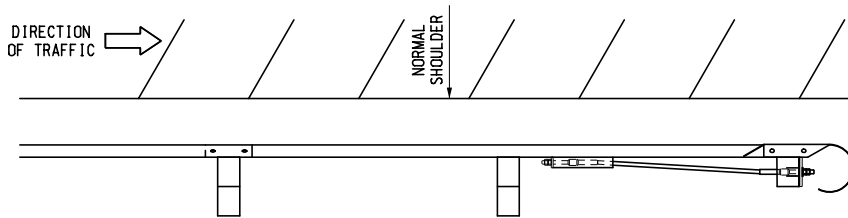


TRAFFIC PASSING ON THE RIGHT SIDE

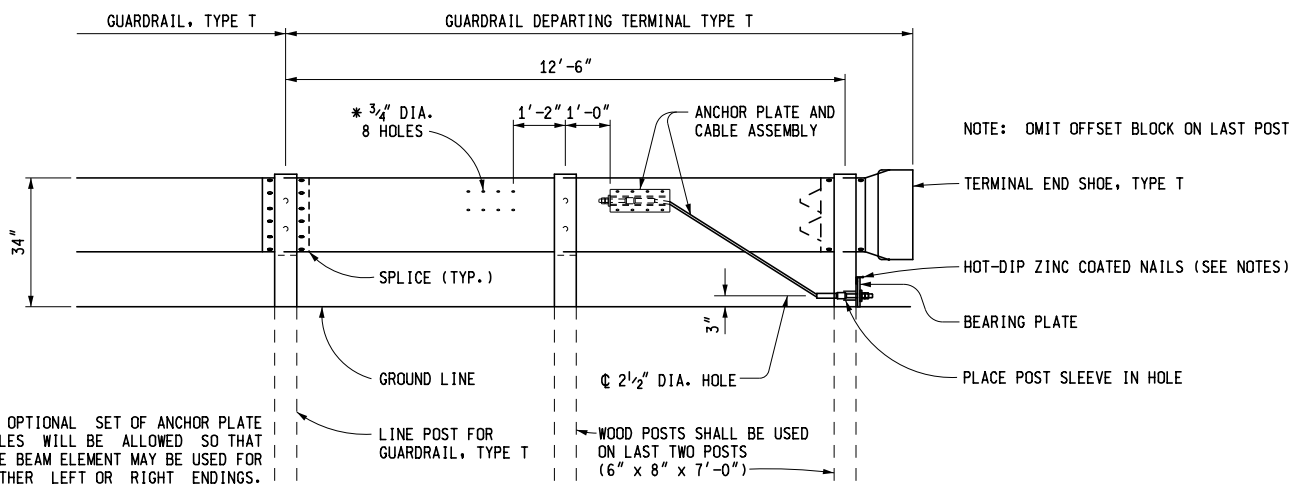
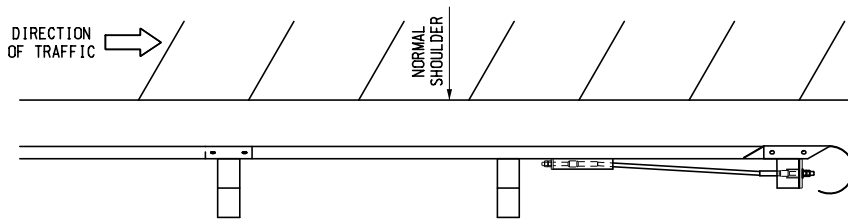
THE PORTION OF THE IMPACT HEAD ASSEMBLY FACING TRAFFIC SHALL BE COMPLETELY COVERED WITH HIGH INTENSITY ADHESIVE REFLECTIVE SHEETING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL APPROACH
TERMINAL TYPE 2M**



GUARDRAIL DEPARTING TERMINAL TYPE B



* AN OPTIONAL SET OF ANCHOR PLATE HOLES WILL BE ALLOWED SO THAT THE BEAM ELEMENT MAY BE USED FOR EITHER LEFT OR RIGHT ENDINGS. ANCHOR PLATE SHALL BE PLACED ON UPPER CORRUGATION ONLY.

GUARDRAIL DEPARTING TERMINAL TYPE T



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Stuedle

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____ 171
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

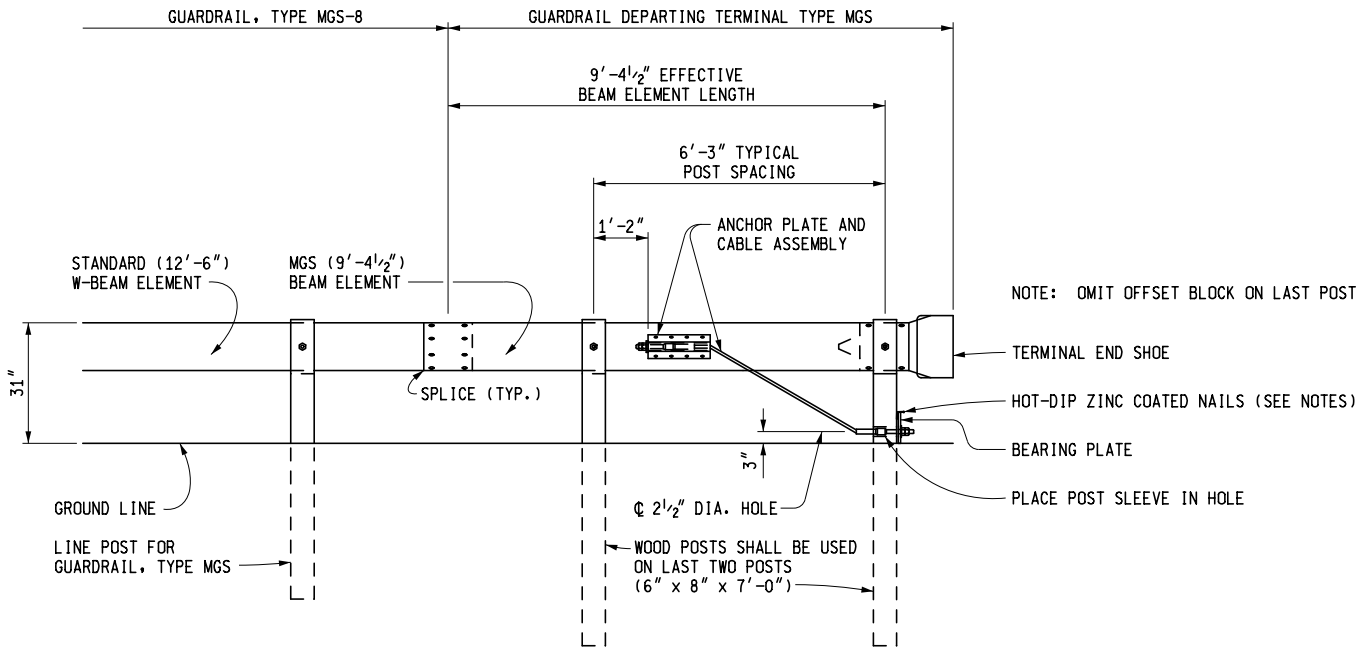
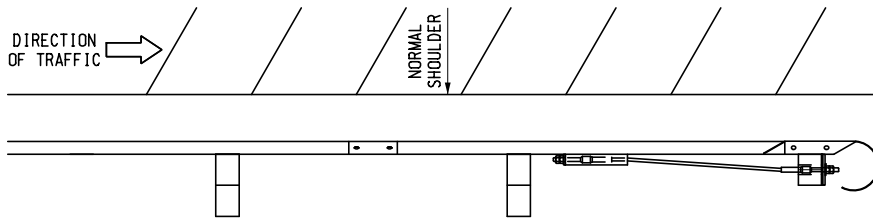
**GUARDRAIL DEPARTING
TERMINAL TYPES B, T, & MGS**

F.H.W.A. APPROVAL

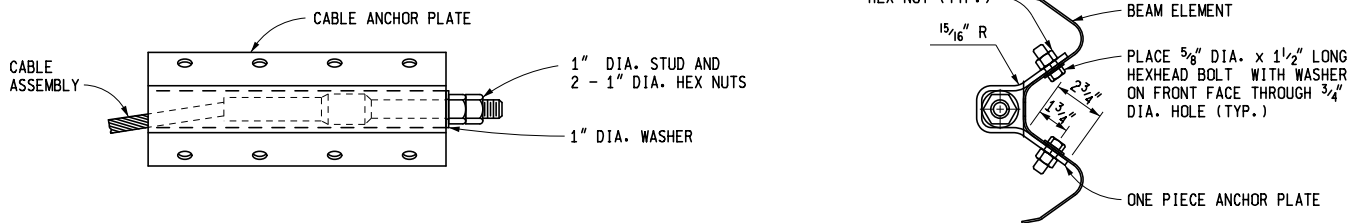
9-28-2018
PLAN DATE

R-66-E

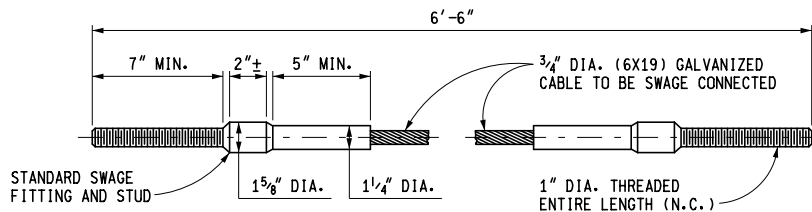
SHEET
1 OF 4



GUARDRAIL DEPARTING TERMINAL TYPE MGS



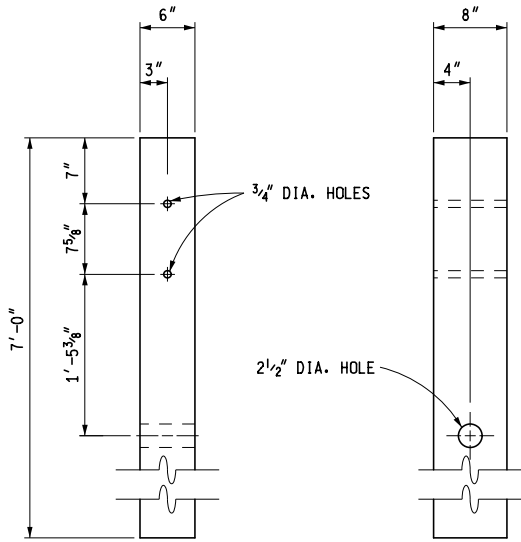
CABLE ANCHOR PLATE DETAILS



CABLE ASSEMBLY

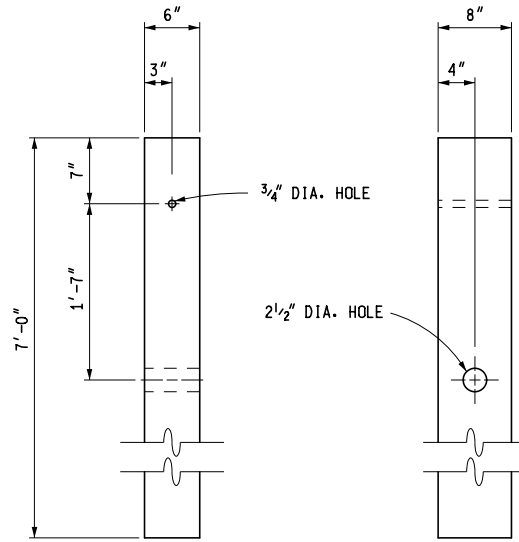
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL DEPARTING
 TERMINAL TYPES B, T, & MGS**



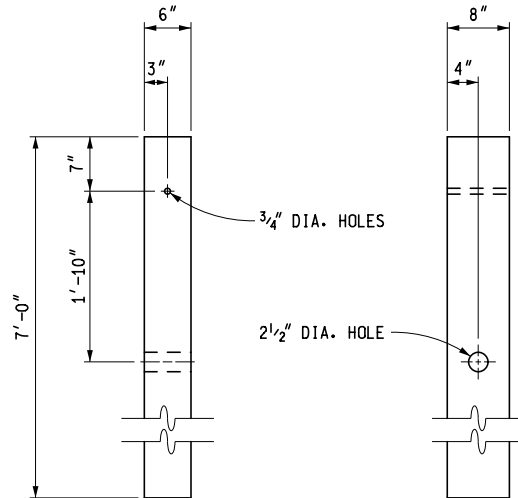
WOOD POST DETAIL

(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE T)



WOOD POST DETAIL

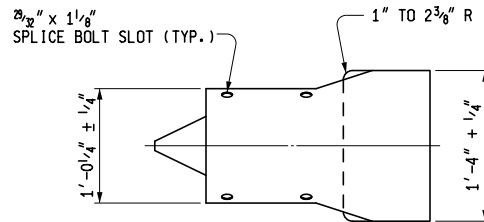
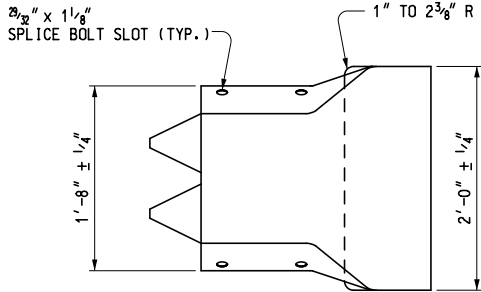
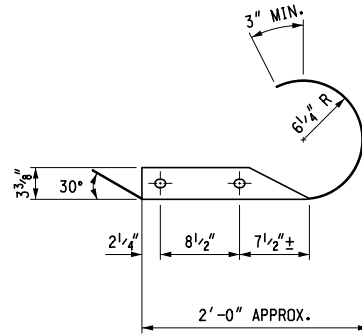
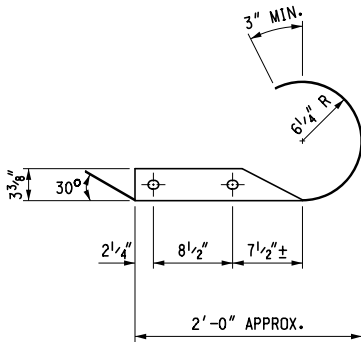
(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE B)



WOOD POST DETAIL

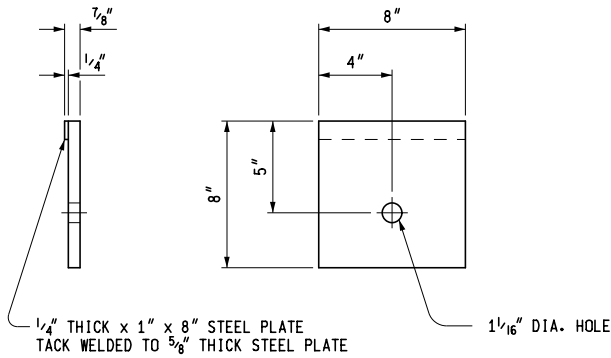
(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE MGS)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GUARDRAIL DEPARTING
 TERMINAL TYPES B, T, & MGS**



TERMINAL END SHOE,
TYPE B OR TYPE MGS

TERMINAL END SHOE, TYPE T



BEARING PLATE



POST SLEEVE

NOTES:

ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL CONFORM TO THE CURRENT STANDARD SPECIFICATIONS AND TO THE CURRENT STANDARD PLAN R-60-SERIES, WHERE APPLICABLE, EXCEPT AS SPECIFIED ON THIS STANDARD.

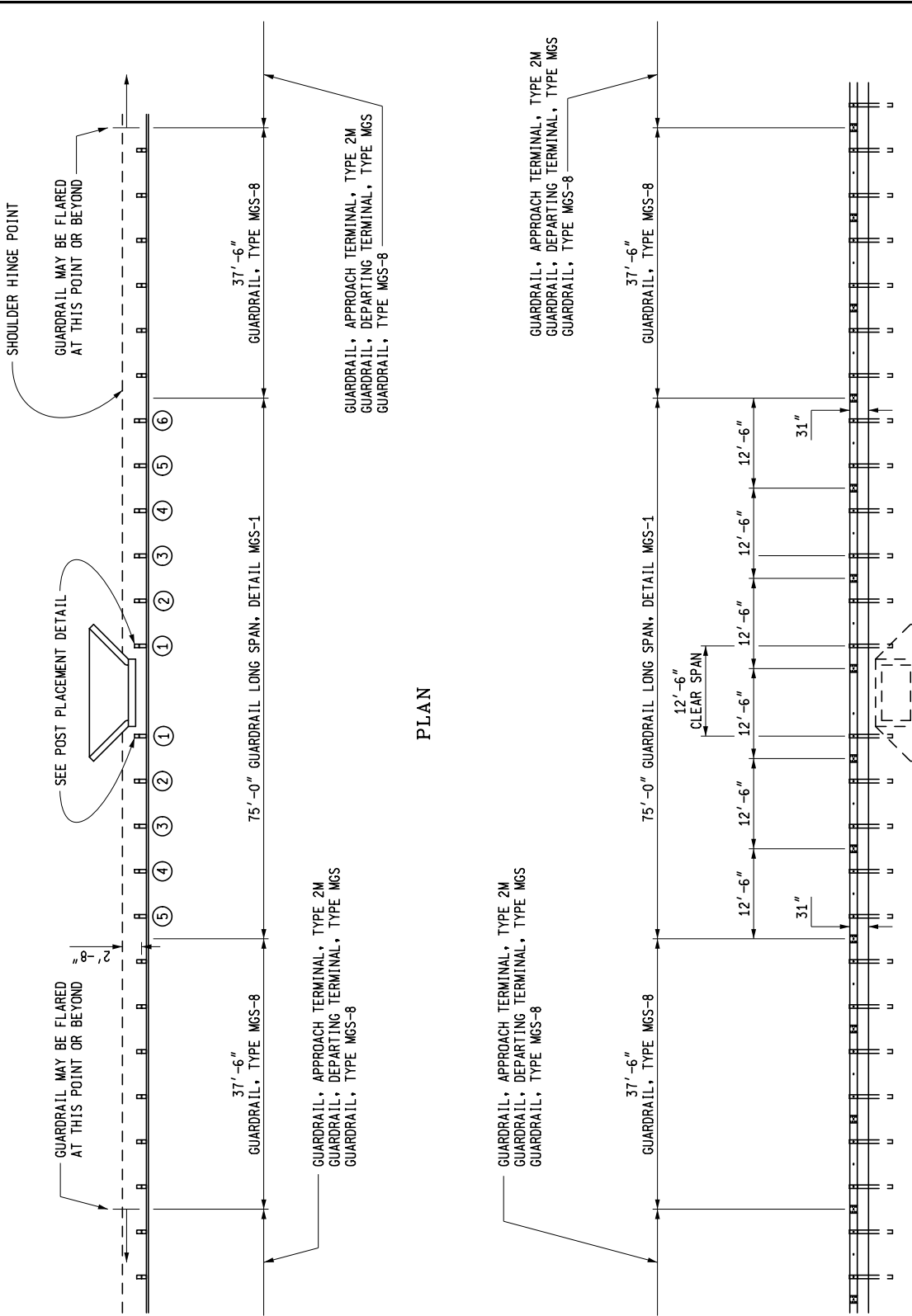
ALL 1:10 SLOPES SHALL BE GRADED TO CLASS A SLOPE TOLERANCES.

FOR DETAILS OF GUARDRAIL PLACEMENT, SEE STANDARD PLAN R-59-SERIES.

AFTER THE CABLE ASSEMBLY HAS BEEN TIGHTENED, A SECOND NUT SHALL BE INSTALLED ON EACH END OF THE CABLE SO THAT THE CABLE WILL NOT LOOSEN.

TWO HOT-DIP ZINC COATED NAILS SHALL BE DRIVEN INTO THE WOOD POST AT THE TOP OF THE BEARING PLATE TO KEEP THE BEARING PLATE FROM ROTATING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GUARDRAIL DEPARTING
TERMINAL TYPES B, T, & MGS**



DEPARTMENT DIRECTOR
Paul C. Ajegba

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

PREPARED BY
DESIGN DIVISION

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

**GUARDRAIL LONG SPAN
INSTALLATIONS**

DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

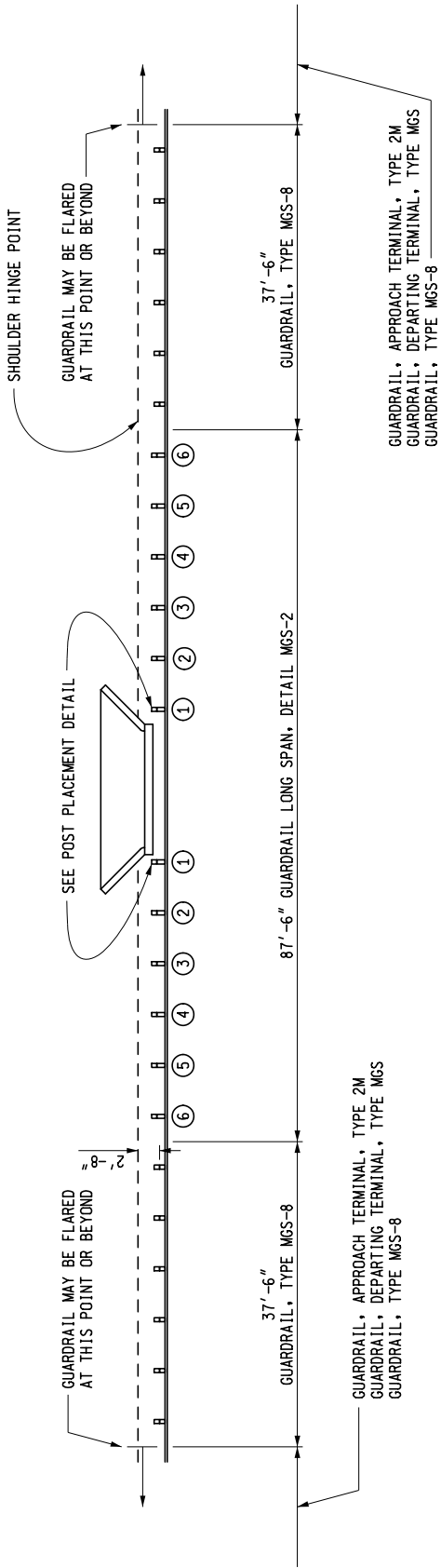
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT 175

F.H.W.A. APPROVAL

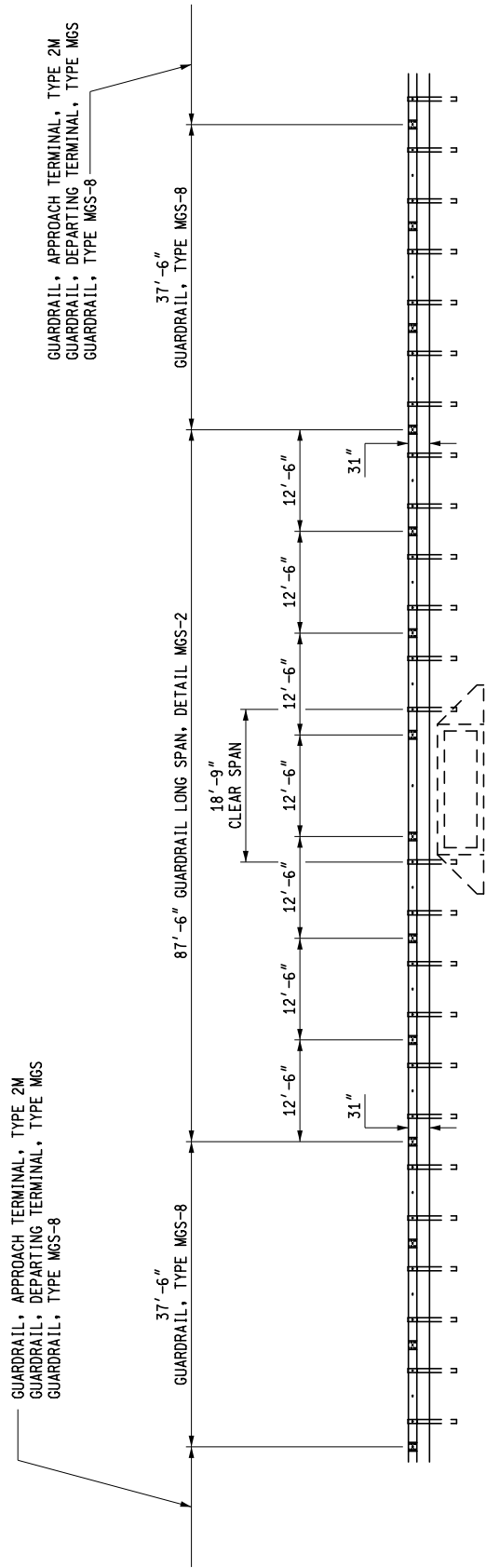
8-23-2022
PLAN DATE

R-72-D

SHEET
1 OF 6



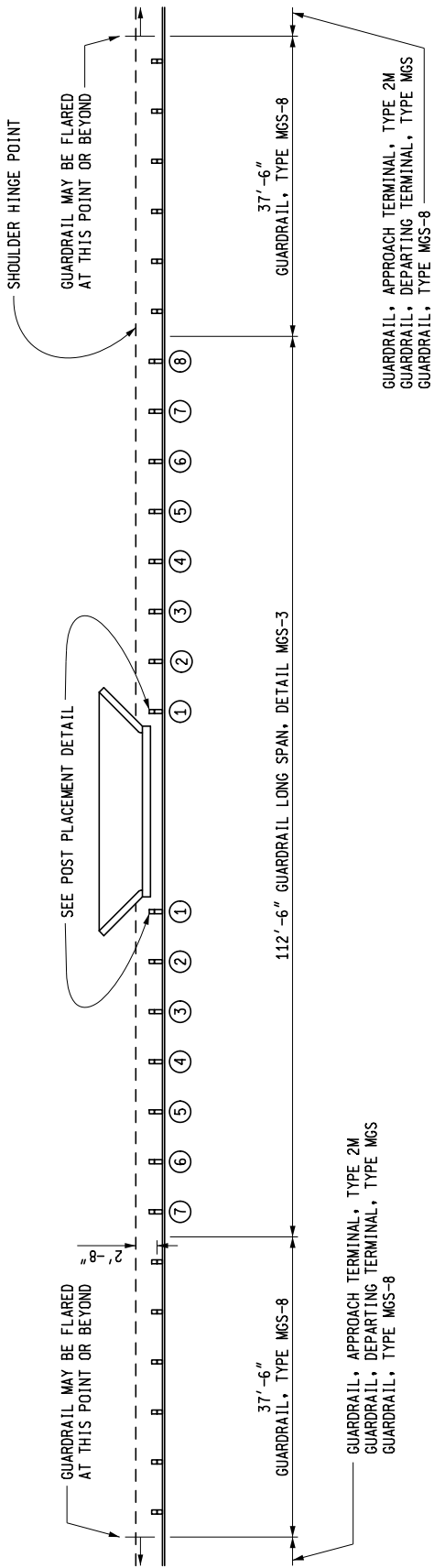
PLAN



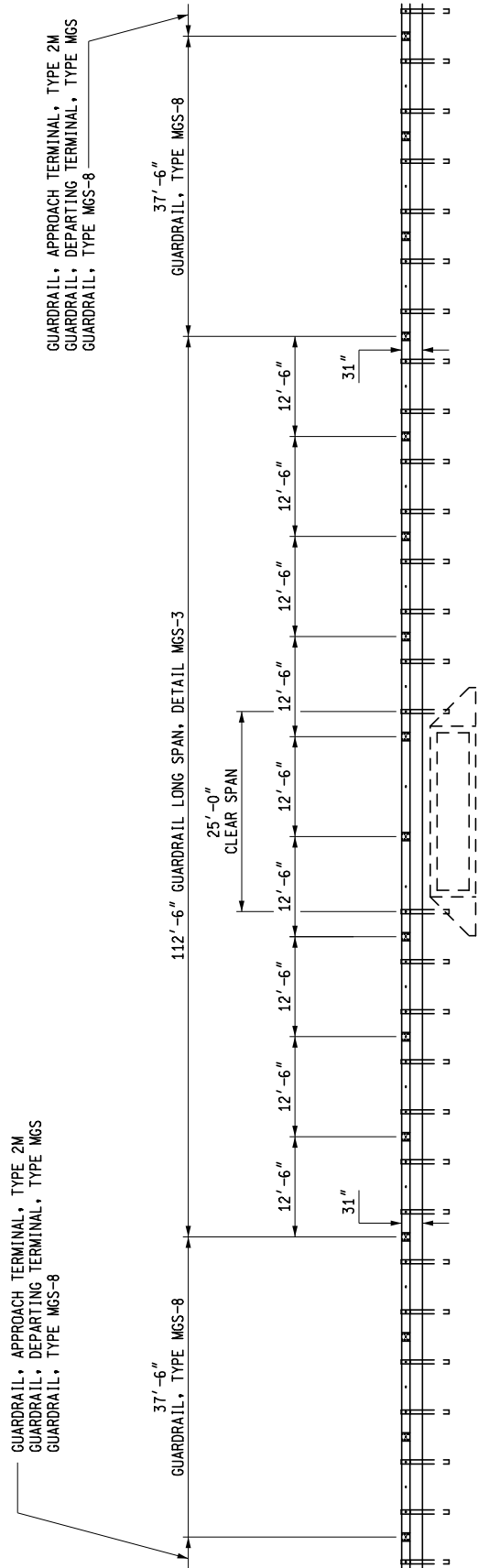
ELEVATION
GUARDRAIL LONG SPAN, DETAIL MGS-2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL LONG SPAN
INSTALLATIONS**



PLAN

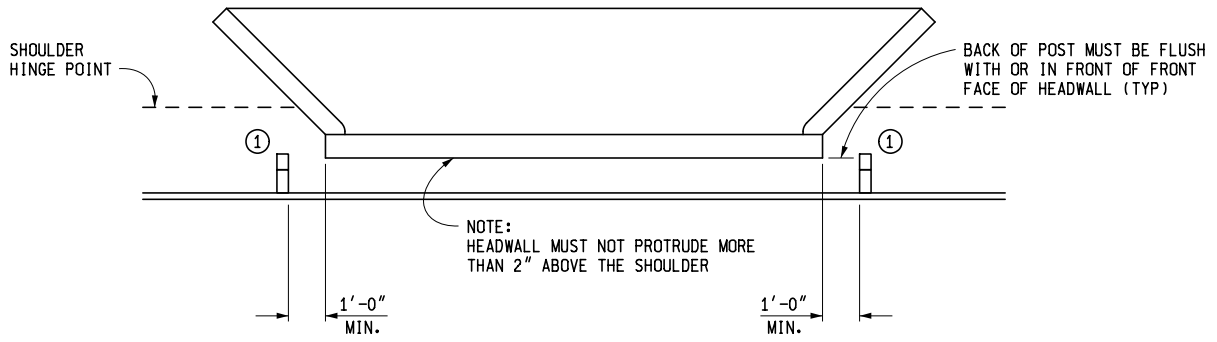


ELEVATION
GUARDRAIL LONG SPAN, DETAIL MGS-3

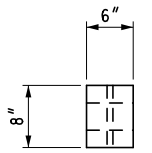
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL LONG SPAN INSTALLATIONS

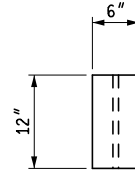
F.H.W.A. APPROVAL	8-23-2022 PLAN DATE	R-72-D
		SHEET 3 OF 6



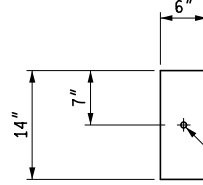
POST PLACEMENT DETAIL



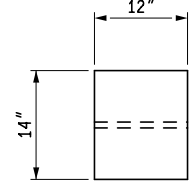
PLAN



TOP

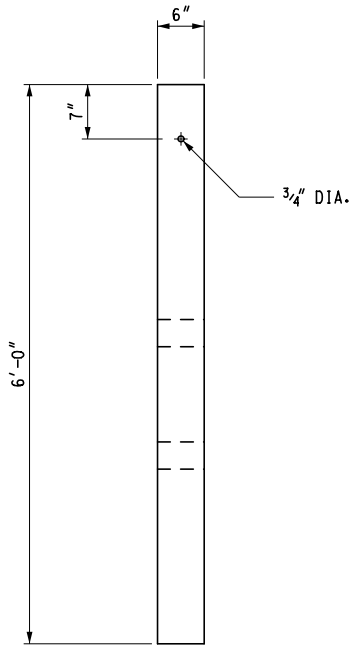


FRONT

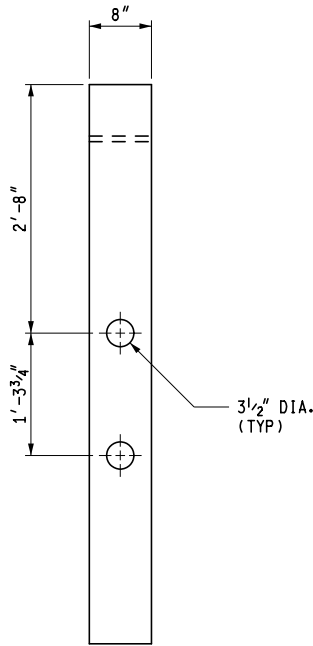


SIDE

MGS 12" OFFSET BLOCK
FOR USE ON WOOD POSTS

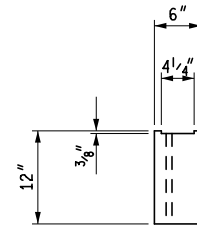


FRONT

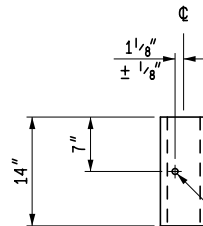


SIDE

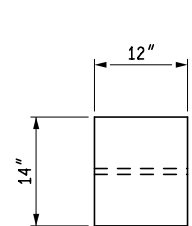
MGS-CRT POST



TOP



FRONT

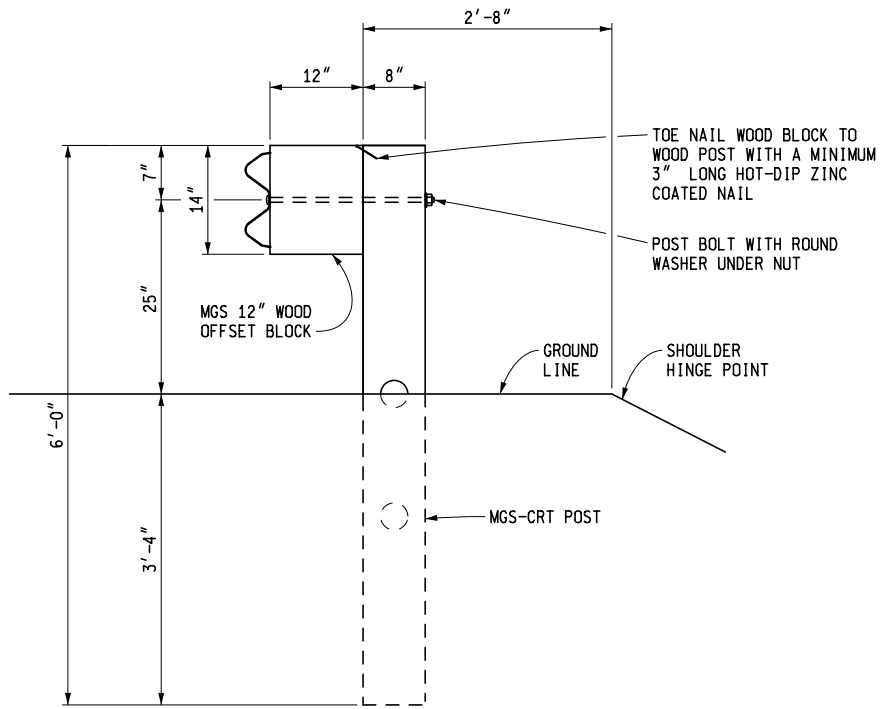


SIDE

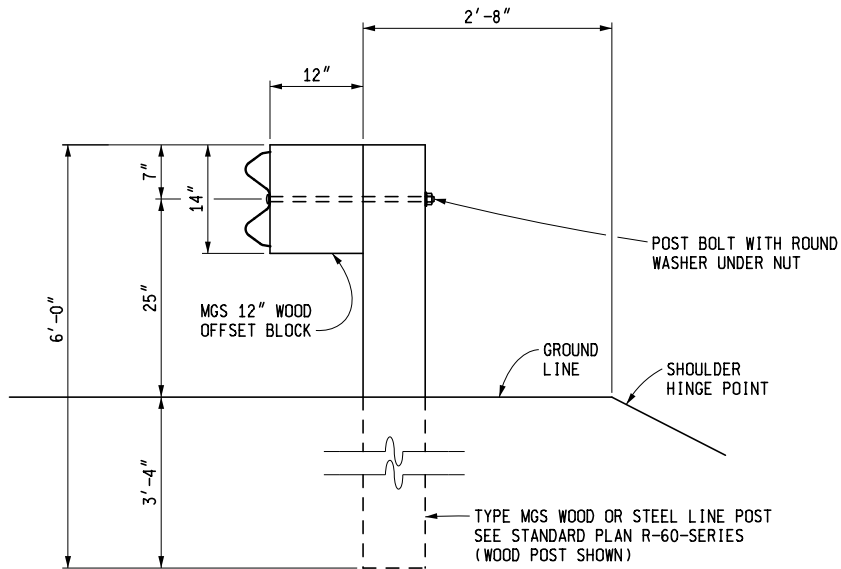
MGS 12" OFFSET BLOCK
FOR USE ON STEEL POSTS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL LONG SPAN
INSTALLATIONS**



POST 1 THROUGH 3 DETAIL
 GUARDRAIL LONG SPAN DETAILS MGS-1, MGS-2, & MGS-3



POST 4 THROUGH 6 DETAIL
 GUARDRAIL LONG SPAN DETAILS MGS-1 & MGS-2

POST 4 THROUGH 8 DETAIL
 GUARDRAIL LONG SPAN DETAIL MGS-3

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL LONG SPAN
 INSTALLATIONS**

NOTES:

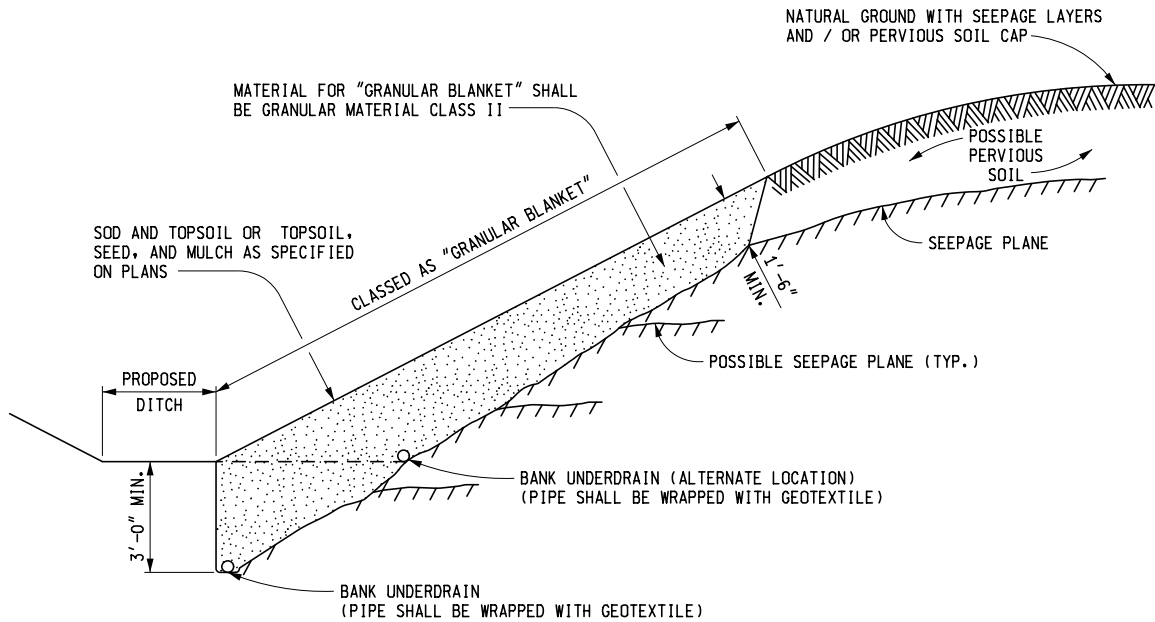
ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS AND THE CURRENT STANDARD PLAN R-60-SERIES, WHERE APPLICABLE, EXCEPT WHERE NOTED ON THIS STANDARD.

THE GUARDRAIL MODIFICATIONS DETAILED ON THIS STANDARD SHOULD ONLY BE USED WHERE 6'-3" POST SPACING AND POST EMBEDMENT CANNOT BE MET.

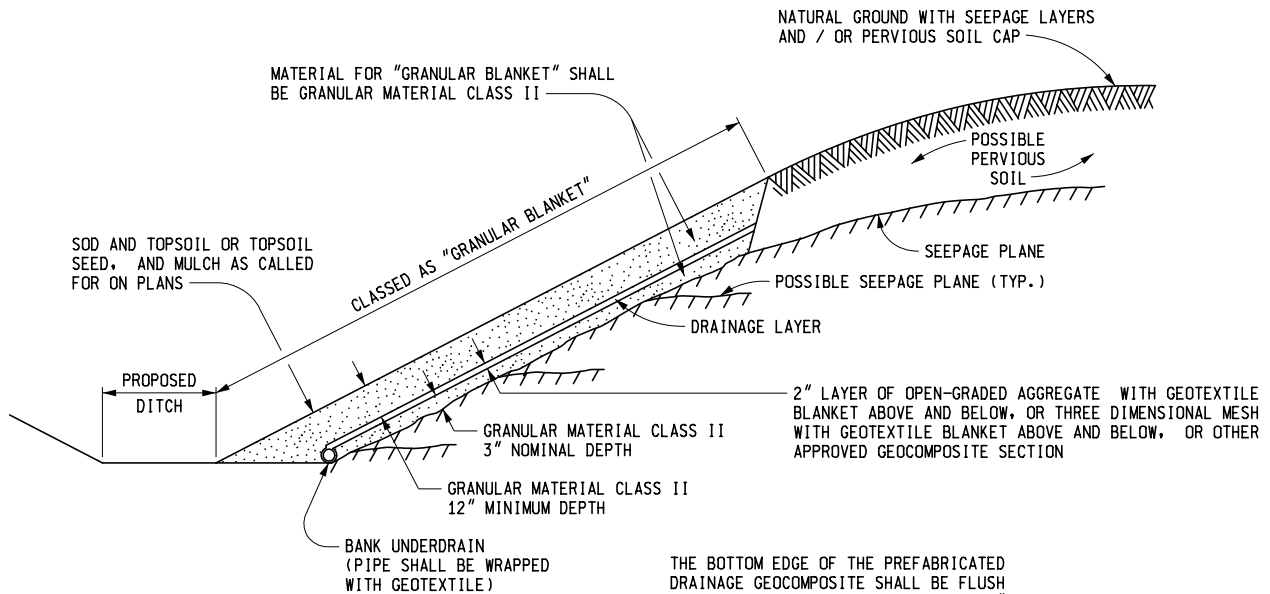
IF USE OF THIS DESIGN WOULD INTERFERE WITH THE POST SPACING WITHIN A GUARDRAIL BRIDGE ANCHORAGE AS SPECIFIED ON STANDARD PLAN R-67-SERIES, OTHER OPTIONS SHOULD BE INVESTIGATED AND USED.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

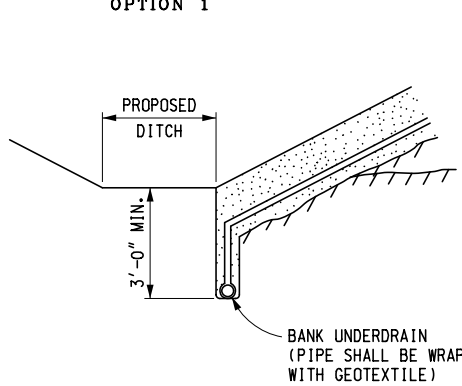
**GUARDRAIL LONG SPAN
INSTALLATIONS**



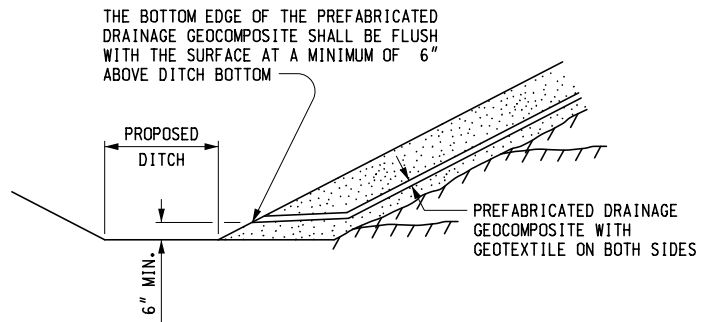
GRANULAR BLANKET TYPE 1



OPTION 1



OPTION 2



OPTION 3

NOTE: OPTION 1, 2, OR 3 WILL BE DETERMINED BY THE ENGINEER BASED ON THE PROJECT CONDITIONS.

GRANULAR BLANKET TYPE 2



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT 181

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

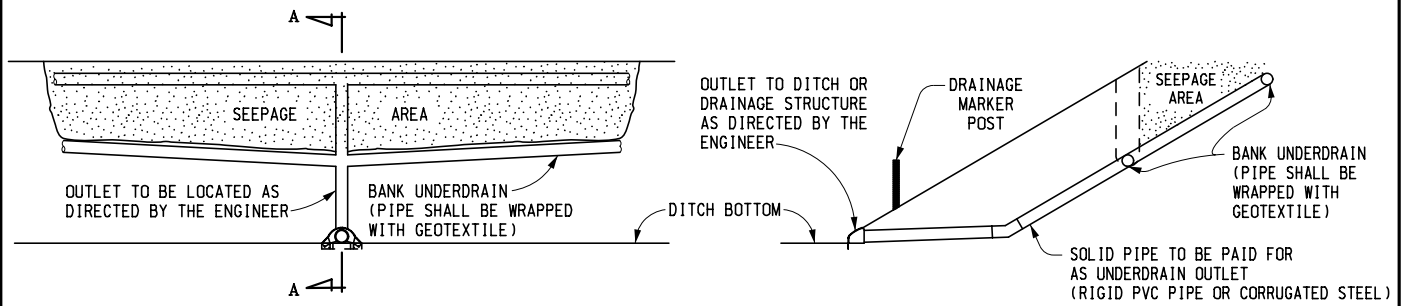
**GRANULAR BLANKET, UNDERDRAINS,
OUTLET ENDINGS FOR UNDERDRAINS,
AND SEWER BULKHEADS**

F.H.W.A. APPROVAL

6-28-2021
PLAN DATE

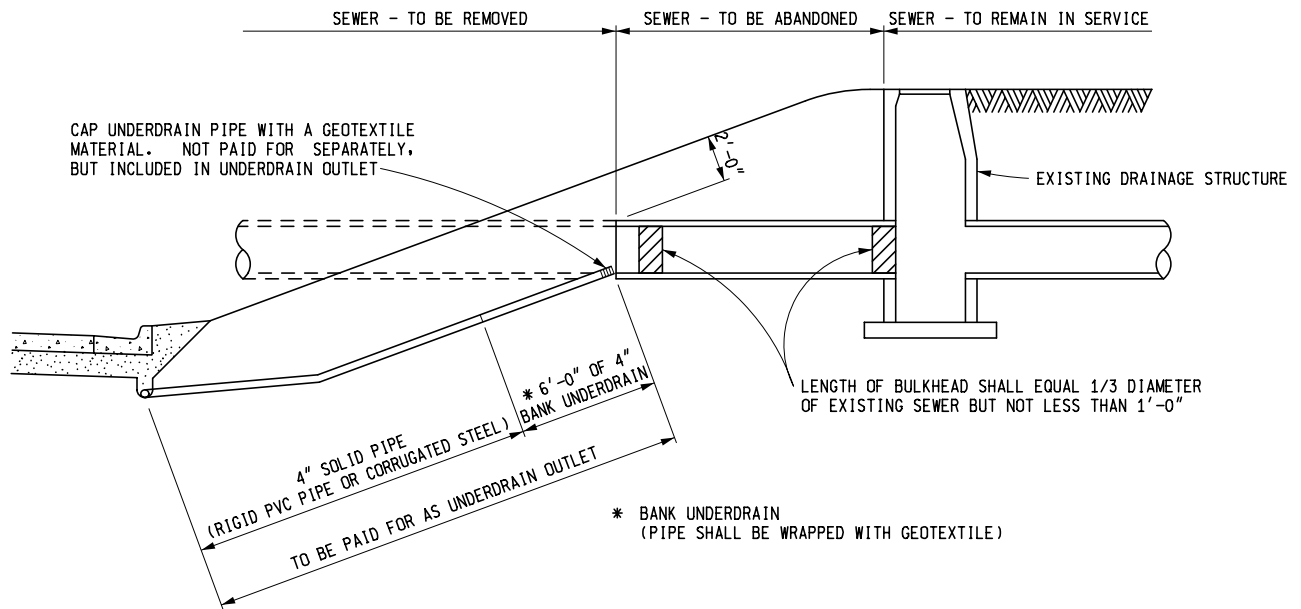
R-80-F

SHEET
1 OF 8



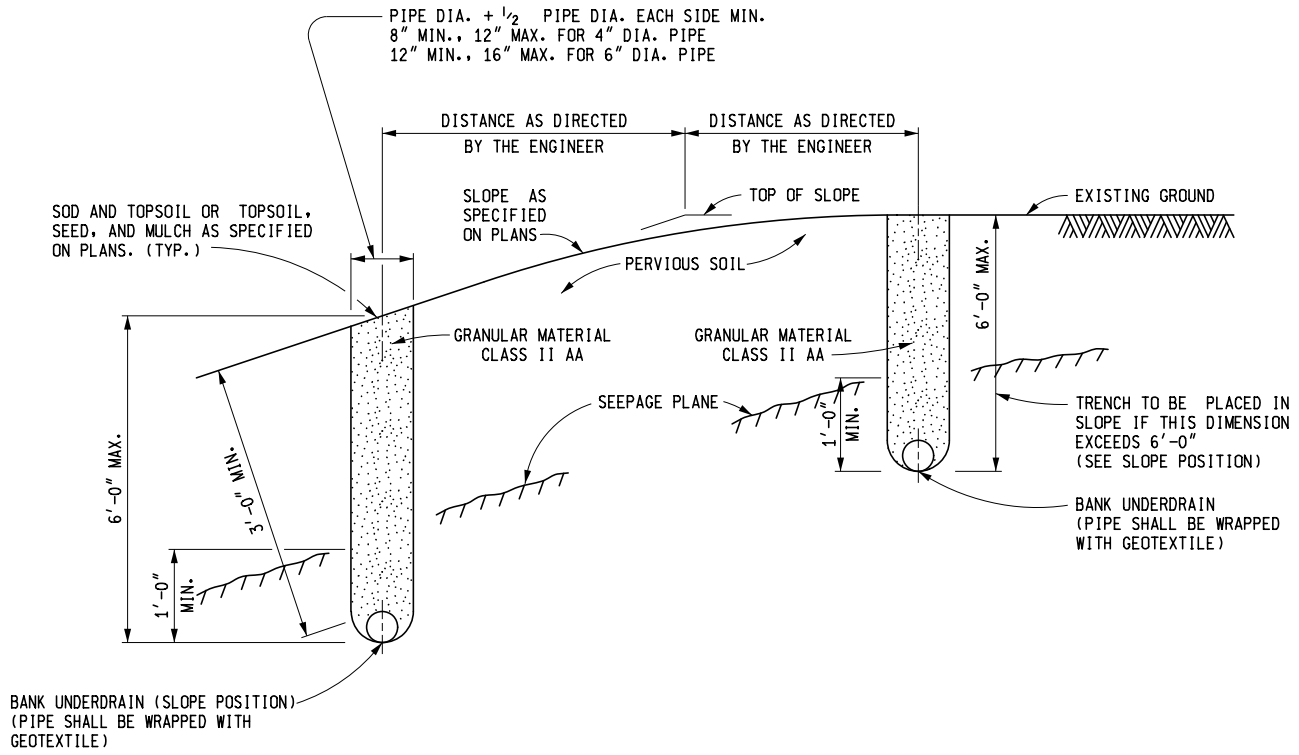
SECTION A - A

BANK UNDERDRAIN OUTLET

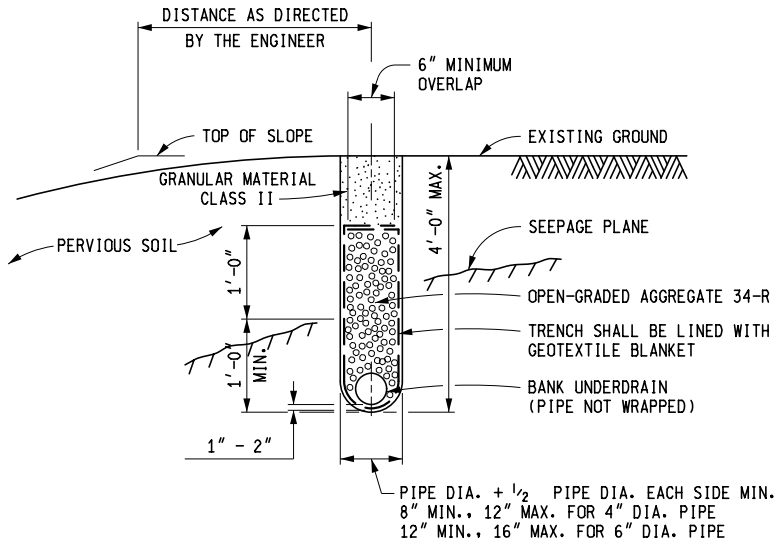


WEEPER UNDERDRAIN AND BULKHEADING SEVERED SEWER

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS		
_____ F.H.W.A. APPROVAL	6-28-2021 PLAN DATE	R-80-F
		SHEET 2 OF 8



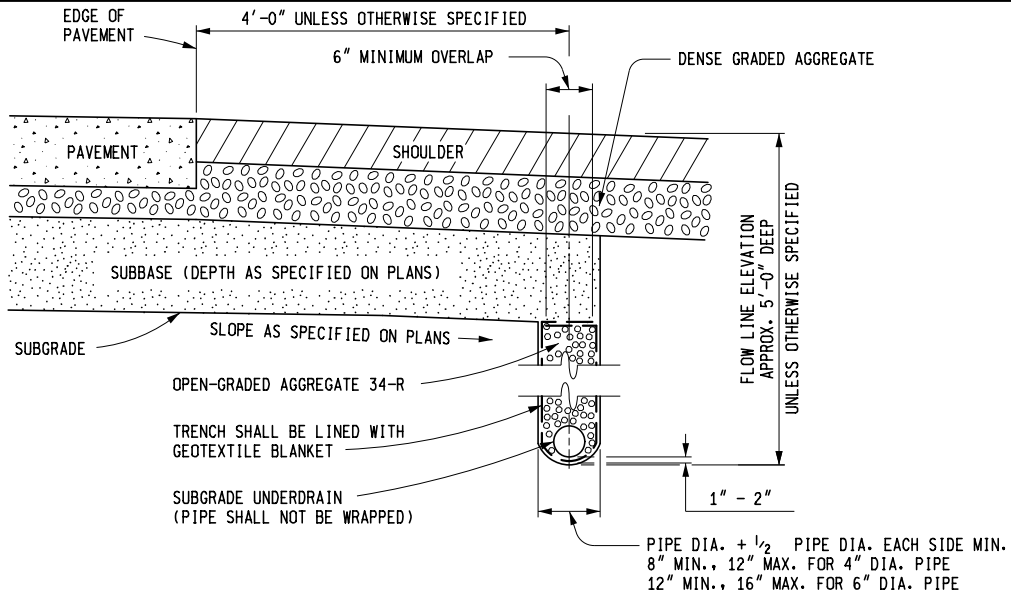
BANK UNDERDRAINS



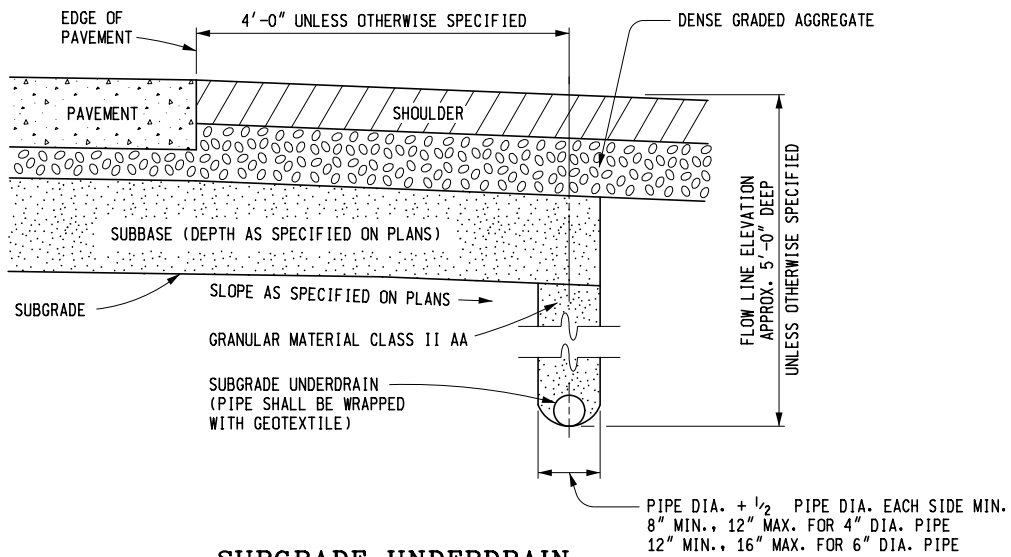
BANK UNDERDRAIN, OPEN-GRADED

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GRANULAR BLANKET, UNDERDRAINS,
 OUTLET ENDINGS FOR UNDERDRAINS,
 AND SEWER BULKHEADS**

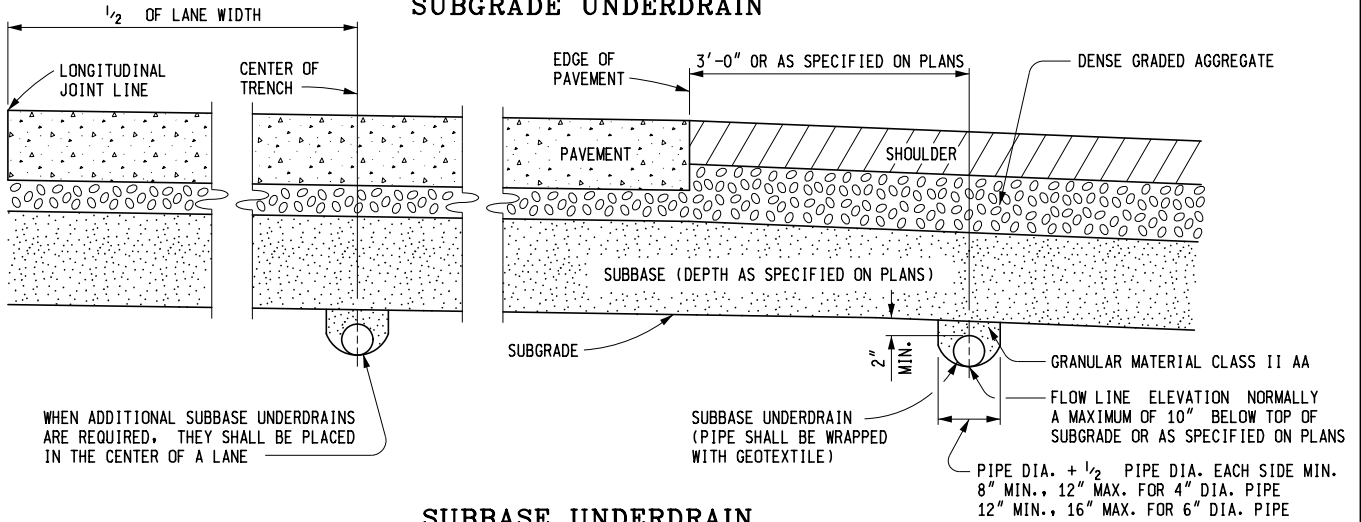
F.H.W.A. APPROVAL	6-28-2021 PLAN DATE	R-80-F	SHEET 3 OF 8
-------------------	------------------------	---------------	-----------------



SUBGRADE UNDERDRAIN - OPEN-GRADED



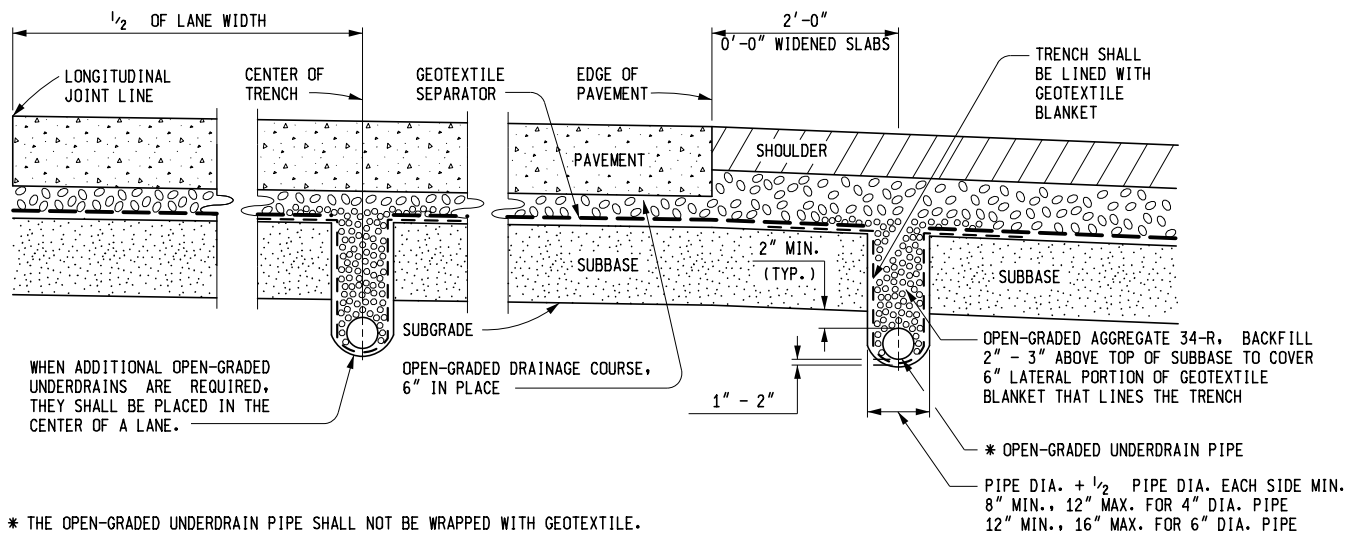
SUBGRADE UNDERDRAIN



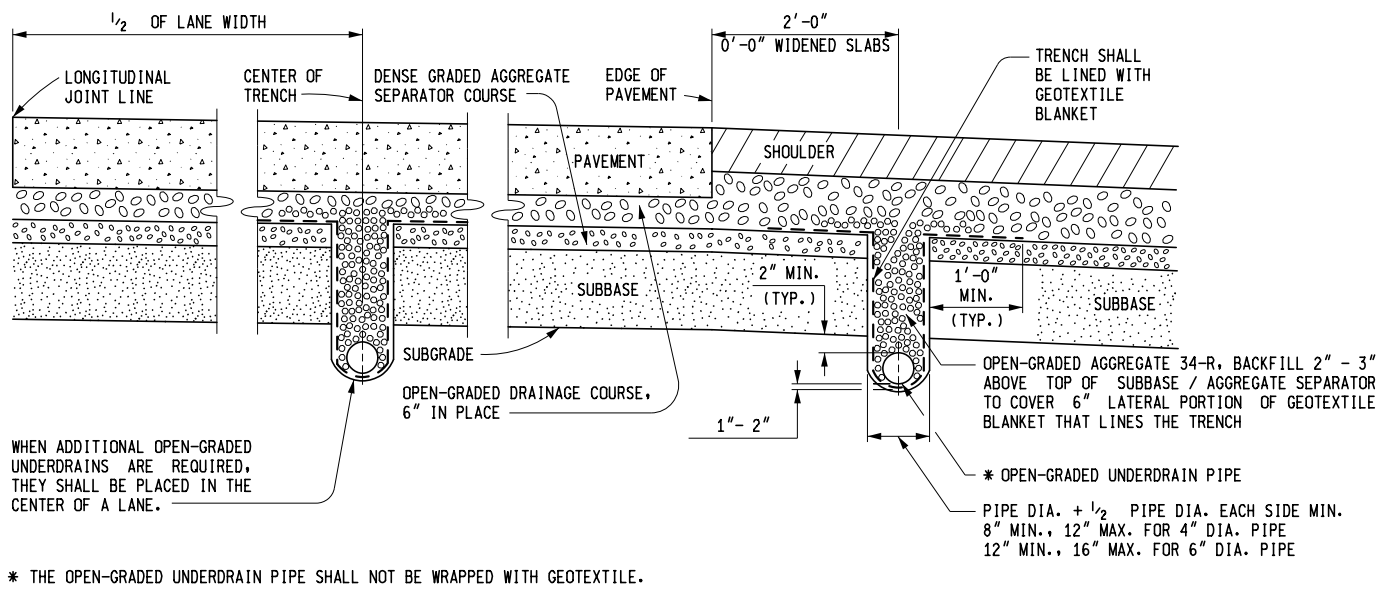
SUBBASE UNDERDRAIN

WHEN ADDITIONAL SUBBASE UNDERDRAINS ARE REQUIRED, THEY SHALL BE PLACED IN THE CENTER OF A LANE

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GRANULAR BLANKET, UNDERDRAINS,
 OUTLET ENDINGS FOR UNDERDRAINS,
 AND SEWER BULKHEADS**



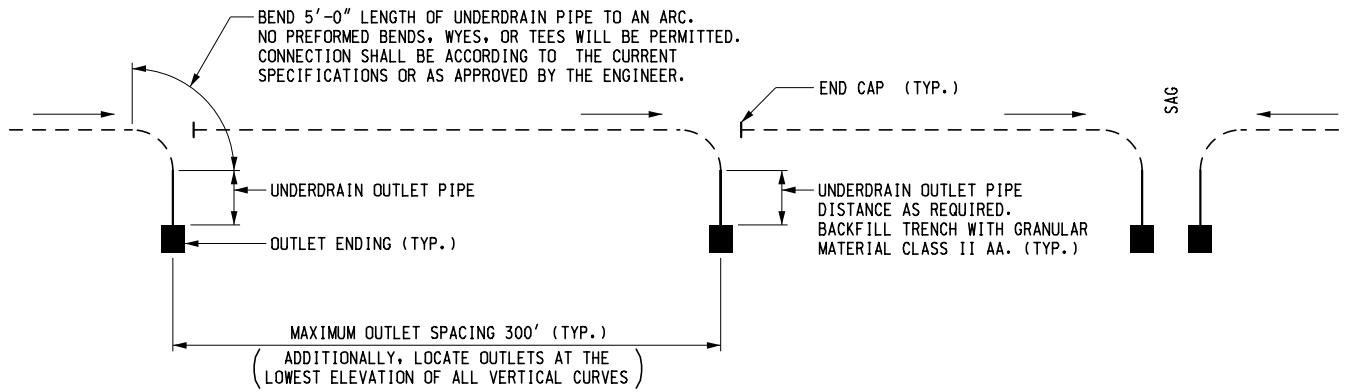
**OPEN-GRADED UNDERDRAIN PIPE
 WITH GEOTEXTILE SEPARATOR**



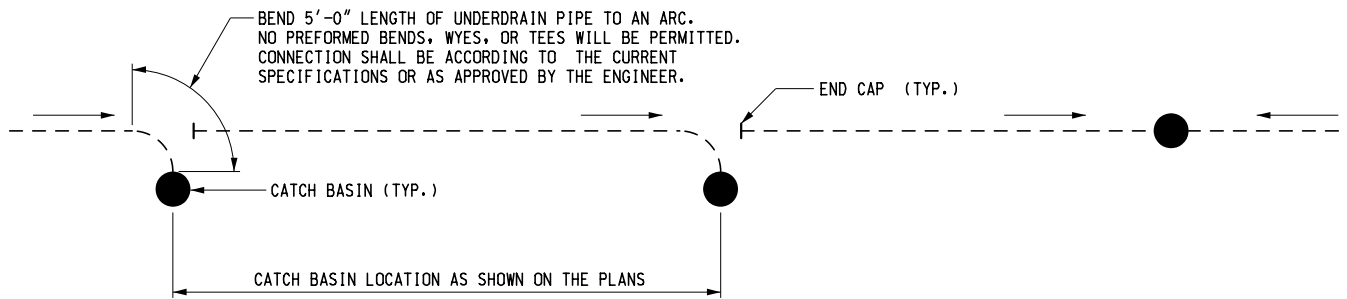
**OPEN-GRADED UNDERDRAIN PIPE
 WITH DENSE GRADED AGGREGATE SEPARATOR COURSE**

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GRANULAR BLANKET, UNDERDRAINS,
 OUTLET ENDINGS FOR UNDERDRAINS,
 AND SEWER BULKHEADS**

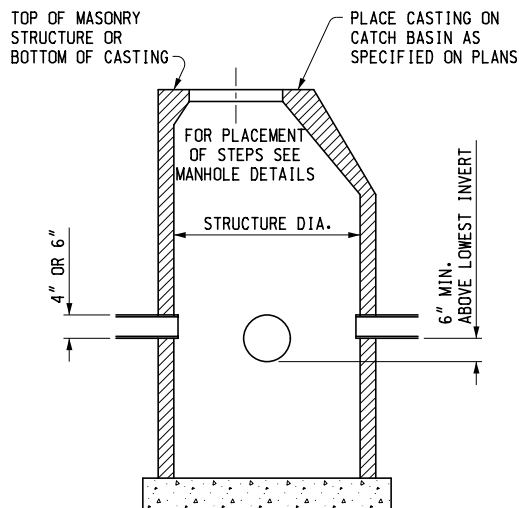
	6-28-2021 PLAN DATE	R-80-F	SHEET 5 OF 8
--	------------------------	---------------	-----------------



PLAN SHOWING OUTLETS FOR UNDERDRAINS



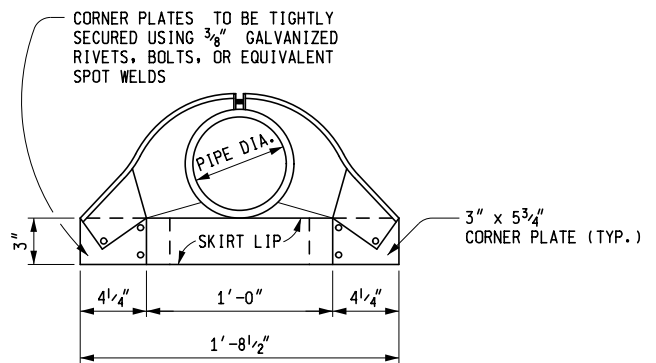
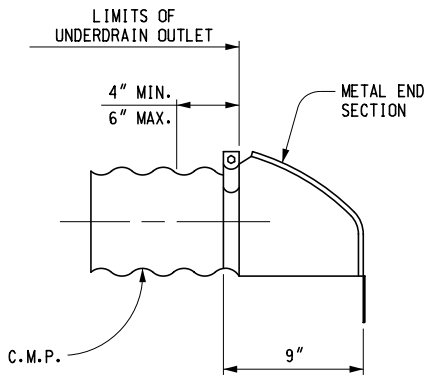
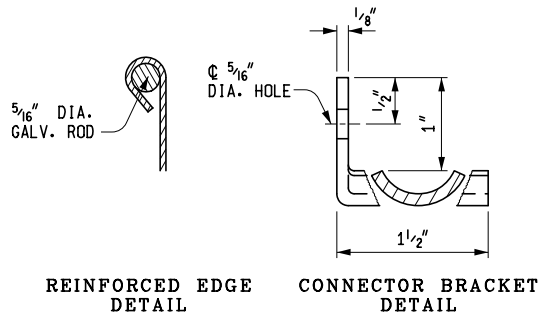
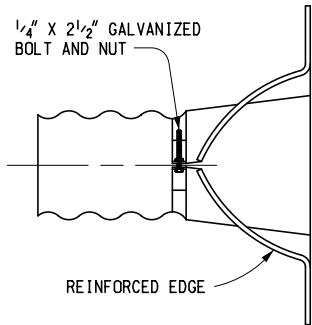
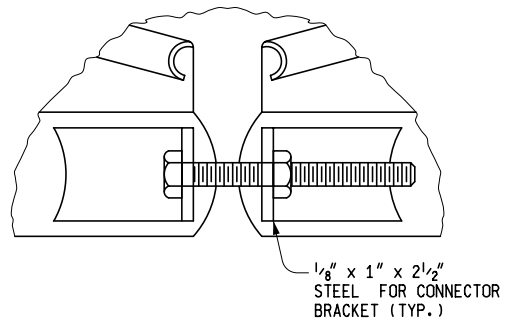
PLAN SHOWING UNDERDRAINS TAPPED INTO CATCH BASINS



PROFILE VIEW

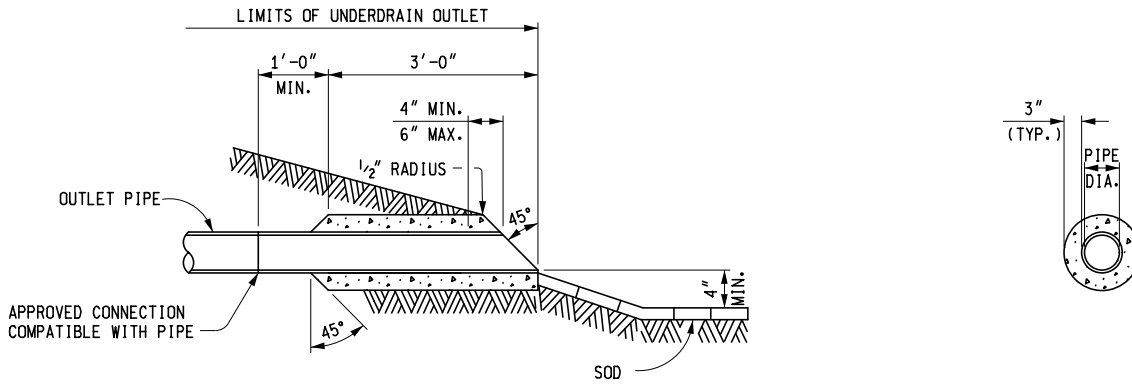
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GRANULAR BLANKET, UNDERDRAINS,
 OUTLET ENDINGS FOR UNDERDRAINS,
 AND SEWER BULKHEADS**

F.H.W.A. APPROVAL	6-28-2021 PLAN DATE	R-80-F	SHEET 6 OF 8
-------------------	------------------------	--------	-----------------

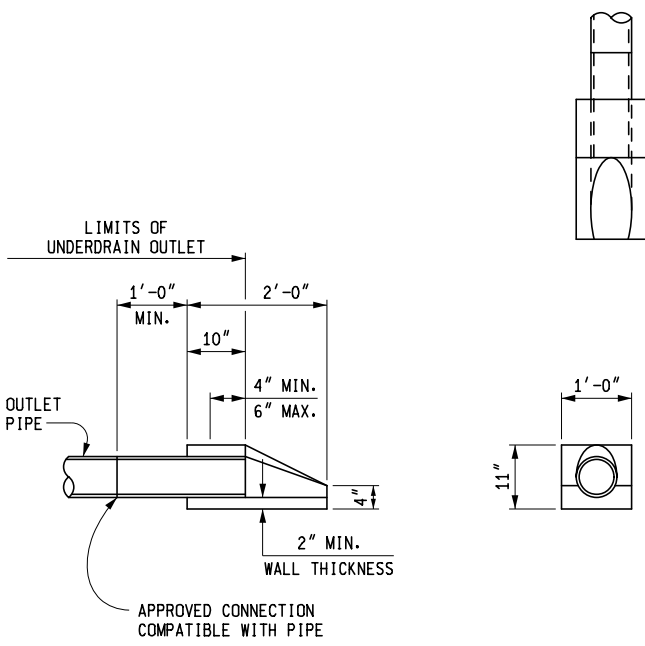


STEEL END SECTION FOR 4" OR 6" PIPE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS		
_____ F.H.W.A. APPROVAL	6-28-2021 _____ PLAN DATE	R-80-F
		SHEET 7 OF 8



CONCRETE RING FOR 4" OR 6" PIPE



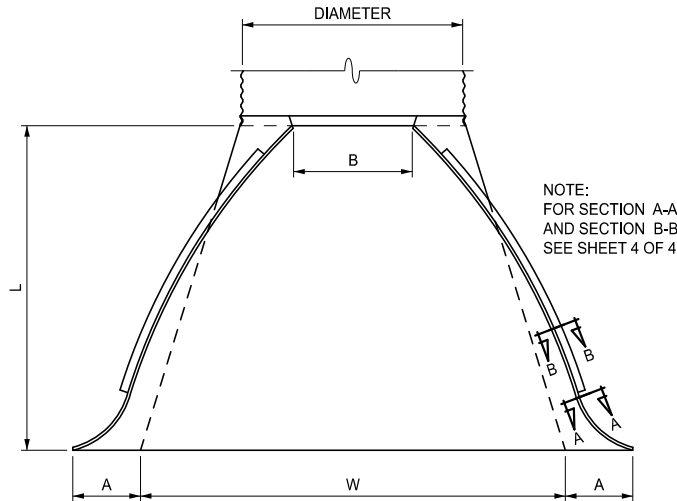
CONCRETE END SECTION FOR 4" OR 6" PIPE

NOTES:

- POSITIVE DRAINAGE SHALL BE PROVIDED FOR UNDERDRAINS AND UNDERDRAIN OUTLETS.
- UNDERDRAIN PIPE SIZES SHALL BE AS SPECIFIED ON THE PLANS.
- CONNECTIONS BETWEEN UNDERDRAIN PIPE AND UNDERDRAIN OUTLET PIPE SHALL BE CONSTRUCTED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER.
- CONNECTIONS, IF REQUIRED WITHIN THE OUTLET PIPE, SHALL BE ACCORDING TO APPLICABLE ASTM SPECIFICATIONS REFERENCED IN THE CURRENT STANDARD SPECIFICATIONS. THEY SHALL BE WATER TIGHT, AND OF THE SAME MATERIAL AS THE OUTLET PIPE.
- OUTLET CONNECTIONS TO DRAINAGE STRUCTURES SHALL BE ACCORDING TO CURRENT STANDARD SPECIFICATIONS FOR DRAINAGE STRUCTURES.
- UNDERDRAIN OUTLET PIPE SHALL BE RIGID PVC OR CORRUGATED METAL ONLY.
- THE CONCRETE RING OR CONCRETE END SECTION SHALL BE CAST AROUND THE SAME TYPE OF PIPE AS THAT USED FOR UNDERDRAIN OUTLET PIPE.
- STEEL END SECTIONS SHALL BE ATTACHED TO THE ENDS OF CORRUGATED METAL PIPE AS SPECIFIED ON THIS STANDARD PLAN, BY STANDARD METAL BANDS, OR BY OTHER CONNECTING DEVICES AS APPROVED BY THE ENGINEER.
- STEEL END SECTIONS ARE NOT ALLOWED ON PVC OUTLET PIPE. CONCRETE END SECTIONS ARE REQUIRED.
- HELICALLY CORRUGATED PIPE (EXCEPT PERFORATED PIPE) SHALL HAVE THE ENDS OF THE PIPE REROLLED TO FORM ANNULAR CORRUGATIONS FOR CONNECTING THE END SECTION.
- GRANULAR MATERIAL PRODUCED FROM CRUSHED PORTLAND CEMENT CONCRETE IS NOT PERMITTED FOR ANY BACKFILL MATERIAL.

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**GRANULAR BLANKET, UNDERDRAINS,
 OUTLET ENDINGS FOR UNDERDRAINS,
 AND SEWER BULKHEADS**

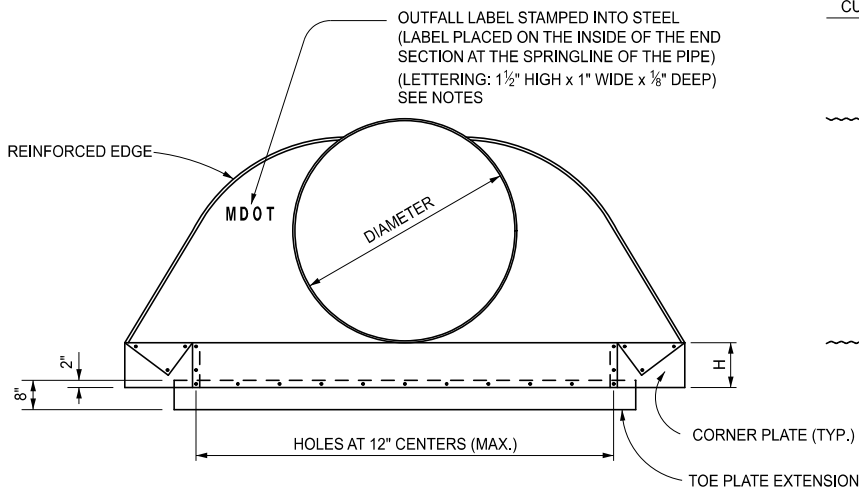
F.H.W.A. APPROVAL	6-28-2021 PLAN DATE	R-80-F	SHEET 8 OF 8
-------------------	------------------------	---------------	-----------------



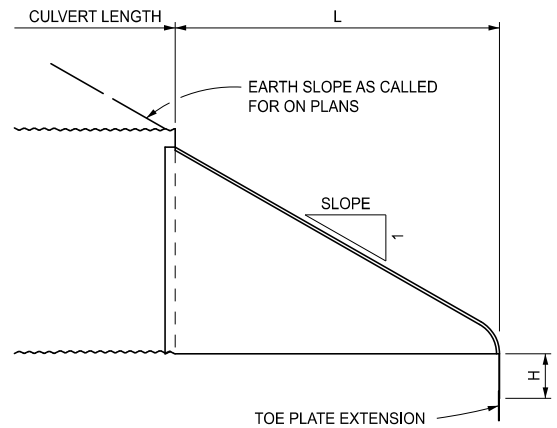
PLAN VIEW

DIMENSIONS								
DIMENSIONS IN INCHES							APPROX SLOPE	BODY
PIPE DIAMETER	MIN. THK.	A ± 1"	B MAX.	H ± 1"	L ± 1 1/2"	W ± 2"		
12	0.064	6	6	6	21	24	2.50	1 Pc
15	0.064	7	8	6	26	30	2.50	1 Pc
18	0.064	8	10	6	31	36	2.50	1 Pc
21	0.064	9	12	6	36	42	2.50	1 Pc
24	0.064	10	13	6	41	48	2.50	1 Pc
30	0.079	12	16	8	51	60	2.50	1 Pc
36	0.079	14	19	9	60	72	2.50	2 Pc
42	0.109	16	22	11	69	84	2.50	2 Pc
48	0.109	18	27	12	78	90	2.25	2 Pc
54	0.109	18	30	12	84	102	2.00	2 Pc
* 60	0.109	18	33	12	87	114	1.75	3 Pc
* 66	0.109	18	36	12	87	120	1.50	3 Pc
* 72	0.109	18	39	12	87	126	1.33	3 Pc
* 78	0.109	18	42	12	87	132	1.25	3 Pc
* 84	0.109	18	45	12	87	138	1.16	3 Pc

* ALL THREE PIECE BODIES HAVE 0.109" SIDES AND 0.138" CENTER PANELS. WIDTH OF CENTER PANEL TO BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY 3/8" DIAMETER GALVANIZED RIVETS OR BOLTS.



END VIEW



LONGITUDINAL VIEW

NOTE: SEE SHEET 3 FOR CONNECTION DETAILS

STEEL END SECTION FOR CORRUGATED STEEL CIRCULAR PIPE



PREPARED BY DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

ACTING DEPARTMENT DIRECTOR
Bradley C. Wiefelich

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT 189

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

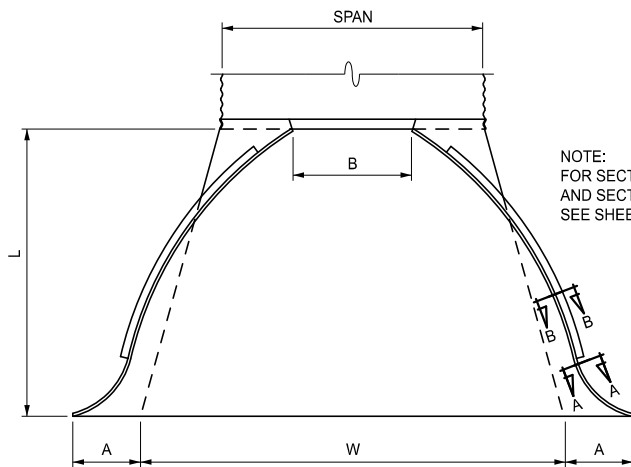
STEEL END SECTION

F.H.W.A. APPROVAL

3-7-2023
PLAN DATE

R-88-E

SHEET
1 OF 4

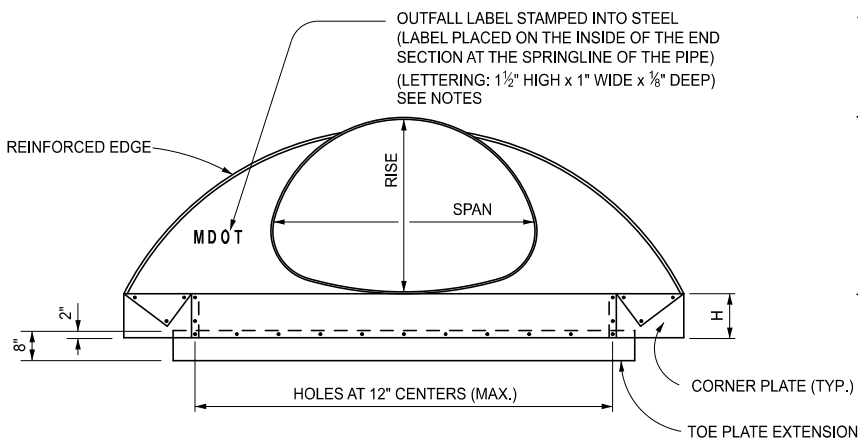


NOTE:
FOR SECTION A-A
AND SECTION B-B
SEE SHEET 4 OF 4

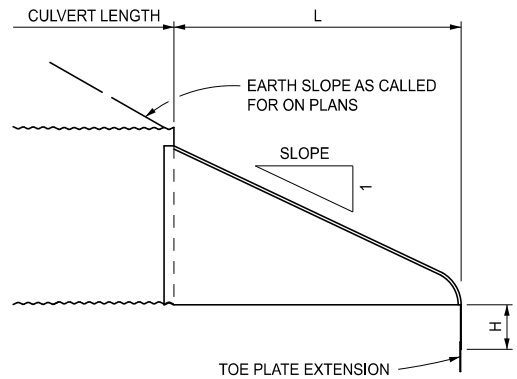
PLAN VIEW

DIMENSIONS								
DIMENSIONS IN INCHES							APPROX SLOPE	BODY
SPAN / RISE	MIN. THK.	A ± 1"	B MAX.	H ± 1"	L ± 1 1/2"	W ± 2"		
17 x 13	0.064	7	9	6	19	30	2.50	1 Pc
21 x 15	0.064	7	10	6	23	36	2.50	1 Pc
24 x 18	0.064	8	12	6	28	42	2.50	1 Pc
28 x 20	0.064	9	14	6	32	48	2.50	1 Pc
35 x 24	0.079	10	16	6	39	60	2.50	1 Pc
42 x 29	0.079	12	18	8	46	75	2.50	1 Pc
49 x 33	0.109	13	21	9	53	85	2.50	2 Pc
57 x 38	0.109	18	26	12	63	90	2.50	2 Pc
64 x 43	0.109	18	30	12	70	102	2.25	2 Pc
* 71 x 47	0.109	18	33	12	77	114	2.25	3 Pc
* 77 x 52	0.109	18	36	12	77	126	2.00	3 Pc
* 83 x 57	0.109	18	39	12	77	138	2.00	3 Pc

* ALL THREE PIECE BODIES HAVE 0.109" SIDES AND 0.138" CENTER PANELS. WIDTH OF CENTER PANEL TO BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY 3/8" DIAMETER GALVANIZED RIVETS OR BOLTS.



END VIEW

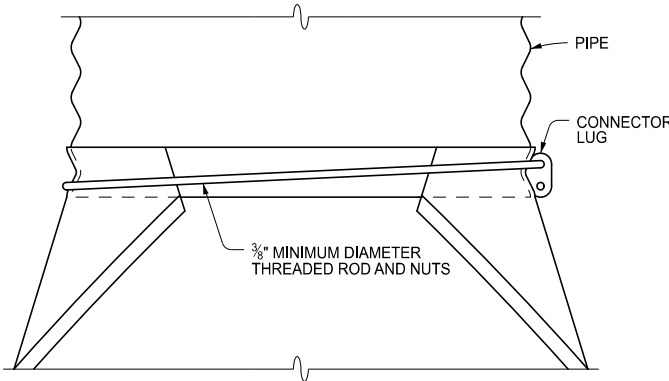


LONGITUDINAL VIEW

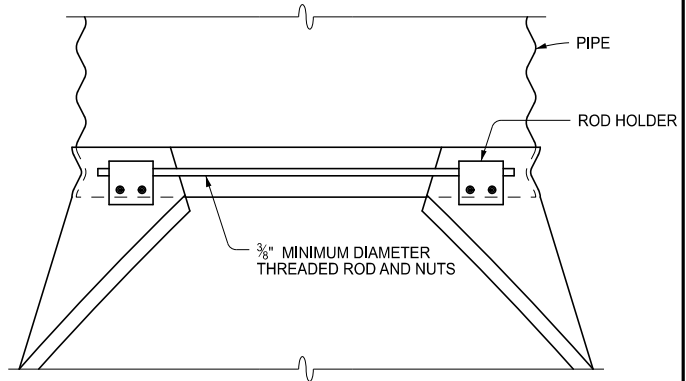
NOTE: SEE SHEET 3 FOR CONNECTION DETAILS

STEEL END SECTION FOR CORRUGATED STEEL PIPE ARCHES

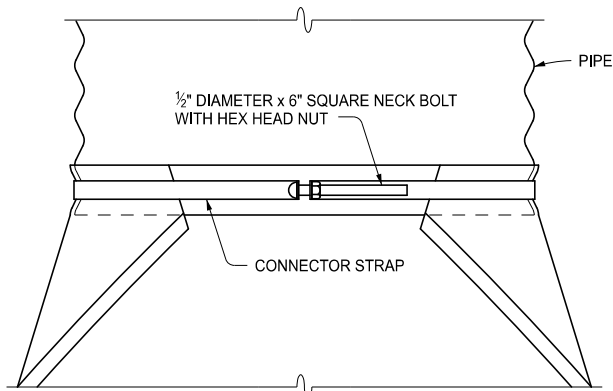
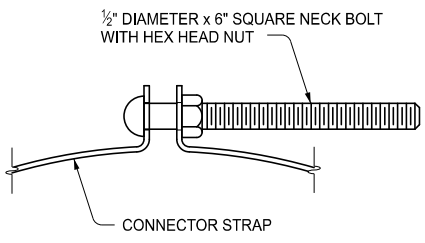
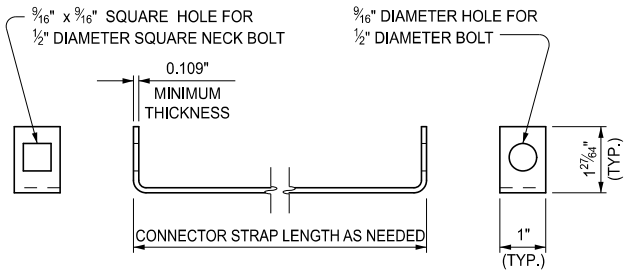
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
STEEL END SECTION			
	3-7-2023 PLAN DATE	R-88-E	SHEET 2 OF 4
190	F.H.W.A. APPROVAL		



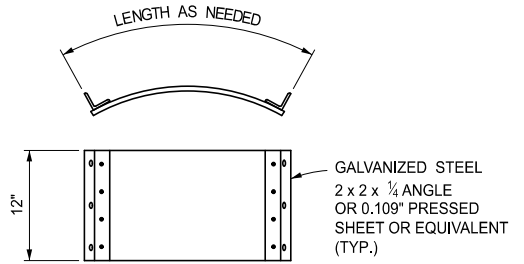
TYPE 1 CONNECTOR
FOR USE ON CIRCULAR PIPE DIAMETERS 12" THROUGH 24"



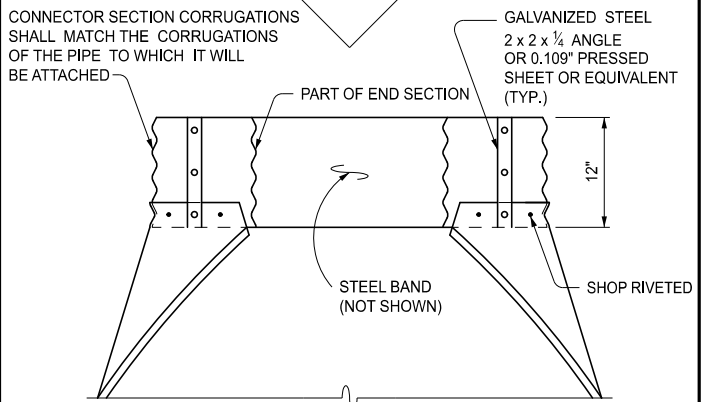
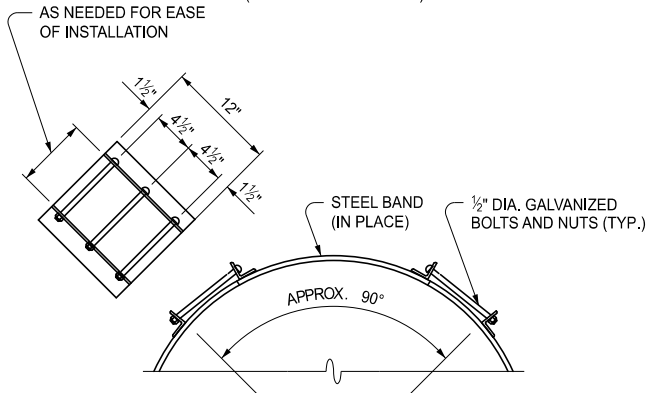
TYPE 2 CONNECTOR
FOR USE ON CIRCULAR PIPE DIAMETERS 30" AND 36"
AND FOR ARCH PIPE SIZES 35" x 24" AND 42" x 29"



TYPE 1A CONNECTOR
FOR USE ON CIRCULAR PIPE DIAMETERS 12" THROUGH 24"
AND FOR ARCH PIPE SIZES 17" x 13" THROUGH 28" x 20"



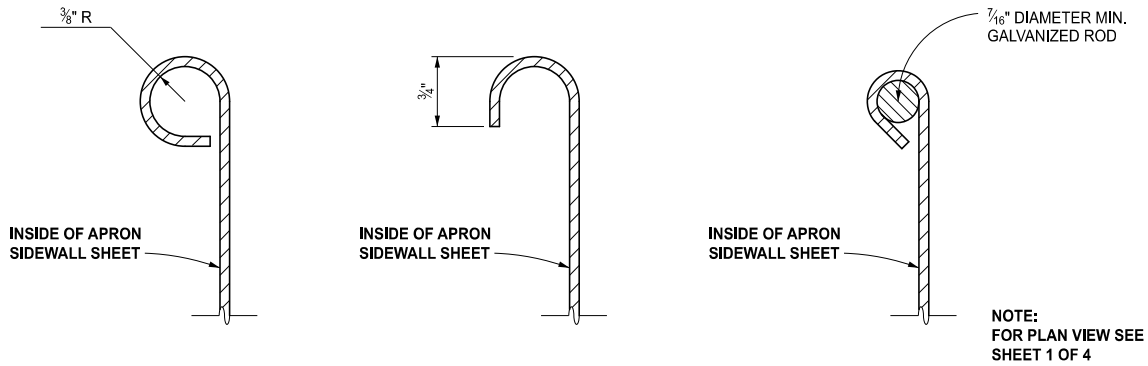
STEEL BAND
(PART OF END SECTION)



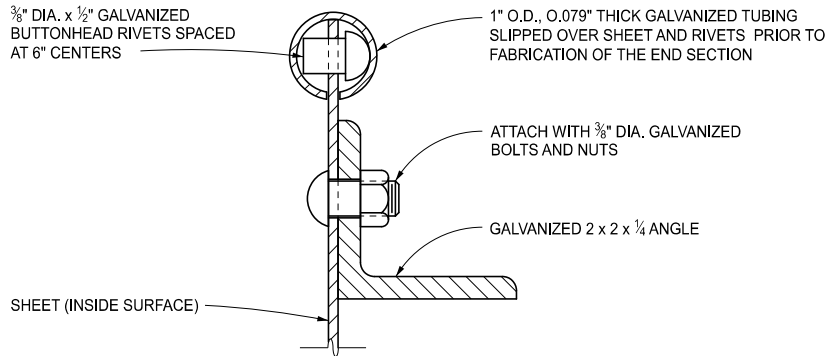
TYPE 3 CONNECTOR
FOR USE ON CIRCULAR PIPE DIAMETERS 42" THROUGH 84"
AND FOR ARCH PIPE SIZES 49" x 33" THROUGH 83" x 57"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

STEEL END SECTION



SECTION A - A
REINFORCED EDGE ALTERNATIVES



SECTION B - B
TO BE USED ON CIRCULAR PIPE DIAMETERS 60" THROUGH 84"
AND FOR ARCH PIPE SIZES 77" x 52" AND 83" x 57"

NOTES:

GALVANIZED STEEL SHALL MEET THE REQUIREMENTS SPECIFIED IN THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

GALVANIZED TOE PLATE EXTENSIONS ARE REQUIRED ON STEEL END SECTIONS AS FOLLOWS:

1. WHEN INDICATED ON THE PLANS.
2. WHEN AUTHORIZED BY THE ENGINEER.
3. WHEN THE HEIGHT OF FILL IS 10' OR MORE.
4. WHEN THE CULVERT GRADE IS 10% OR MORE.

GALVANIZED TOE PLATE EXTENSIONS SHALL BE MATCH PUNCHED TO FIT HOLES IN THE TOE PLATE AND SUPPLIED LOOSE, COMPLETE WITH 3/8" DIAMETER GALVANIZED BOLTS. LENGTH OF THE TOE PLATE EXTENSION IS W + A FOR ALL SIZES.

CONNECTOR SECTIONS, TOE PLATE EXTENSIONS AND CORNER PLATES SHALL BE THE SAME THICKNESS AS THE APRON CENTER PANEL, AND SHALL BE GALVANIZED.

CONNECTOR TYPES DESIGNATED FOR LARGER CORRUGATED STEEL PIPES MAY BE USED ON SMALLER CORRUGATED IPES.

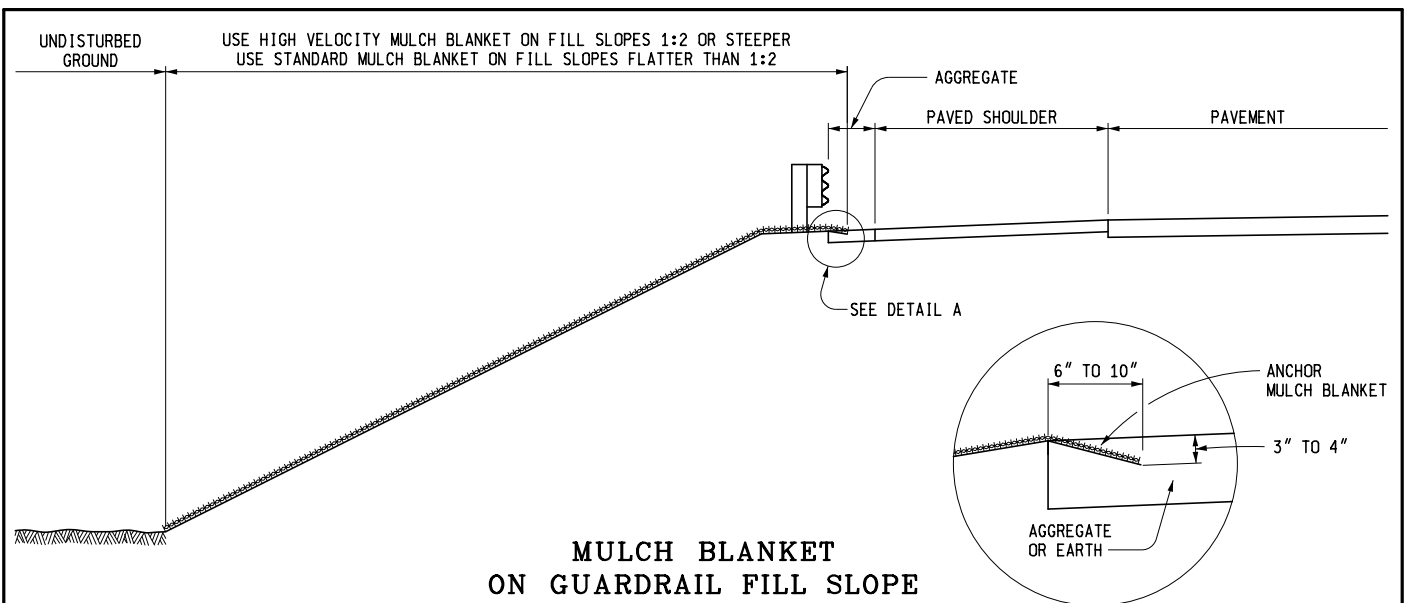
CIRCULAR AND ARCH PIPE SIZES SHOWN ON THIS PLAN HAVE 2 2/3" x 1/2" CORRUGATIONS; EQUIVALENT PIPE SIZES WITH 3" x 1" OR 5" x 1" CORRUGATIONS WILL BE ALLOWED.

ALTERNATE DESIGNS THAT HAVE PRIOR APPROVAL BY THE DEPARTMENT WILL BE ACCEPTED.

OUTFALL LABEL TO BE USED ONLY WHERE STORMWATER WILL DISCHARGE DIRECTLY TO THE WATERS OF THE STATE.

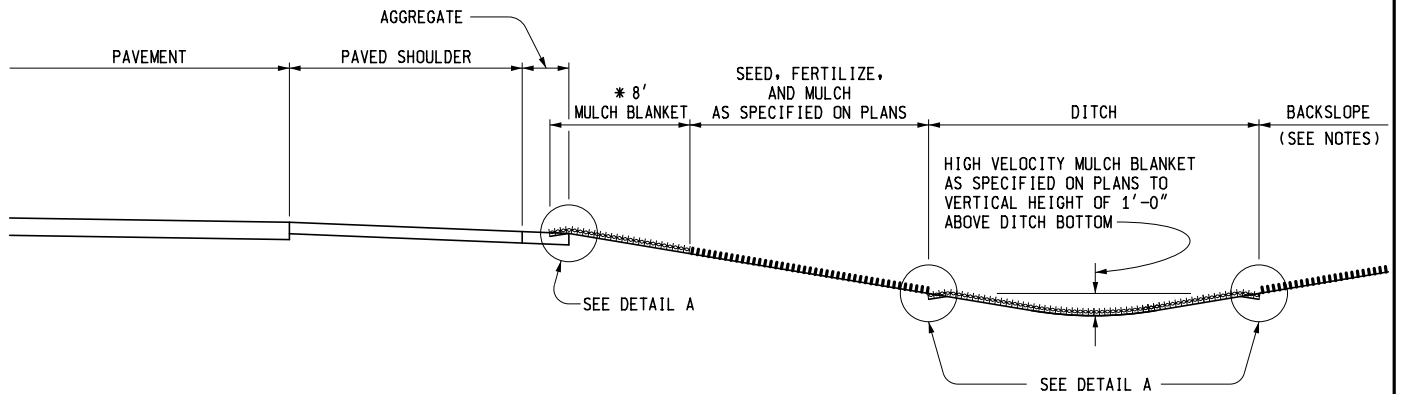
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

STEEL END SECTION

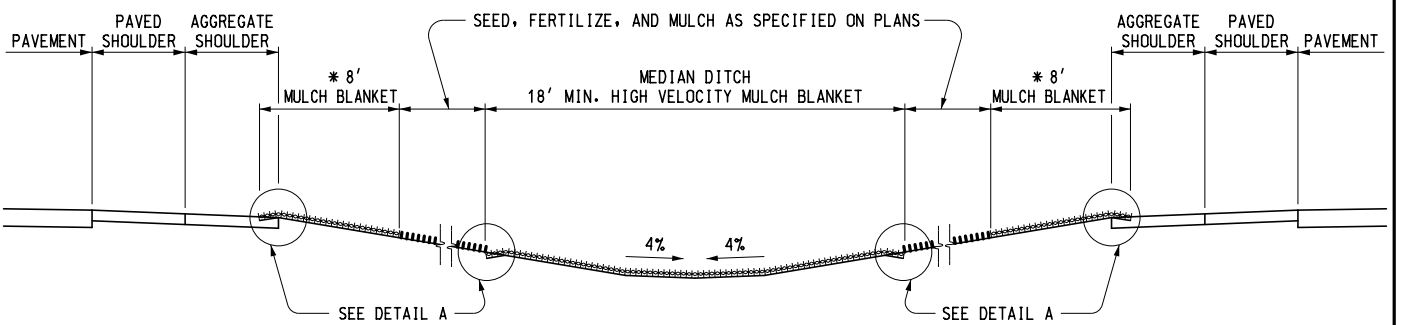


MULCH BLANKET ON GUARDRAIL FILL SLOPE

DETAIL A




TYPICAL SLOPE AND DITCH PROTECTION

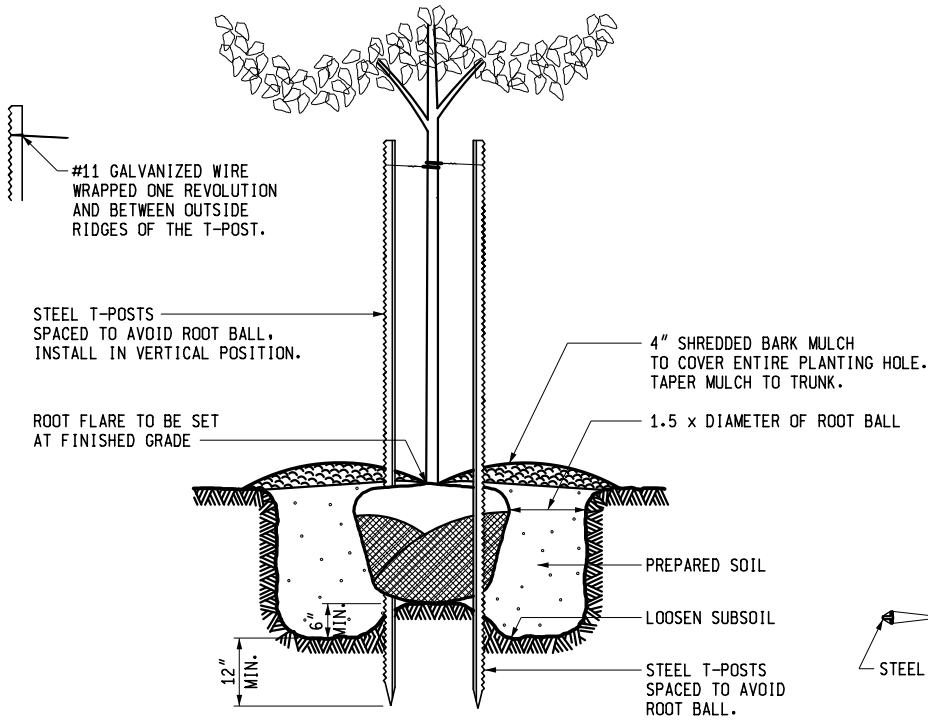


MULCH BLANKET SPILLWAY DITCH

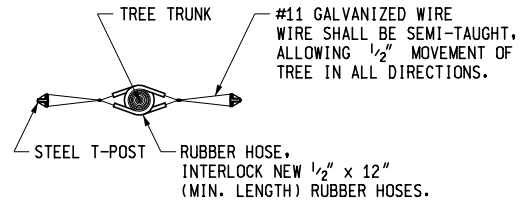
* NOTE:

MULCH BLANKET SHALL BE USED ON BOTH SIDES OF NORMAL SECTIONS, HIGH SIDES OF ALL SUPERELEVATED SECTIONS, AND LOW SIDES OF PAVEMENTS HAVING A SUPERELEVATION OF 5% OR LESS. HIGH VELOCITY MULCH BLANKET SHALL BE USED ON THE LOW SIDE OF PAVEMENTS HAVING A RATE OF SUPERELEVATION GREATER THAN 5%.

 PREPARED BY DESIGN DIVISION DRAWN BY: <u>B.L.T.</u> CHECKED BY: <u>W.K.P.</u>	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR SEEDING AND TREE PLANTING	
	APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT 193	F.H.W.A. APPROVAL	8-3-2021 PLAN DATE



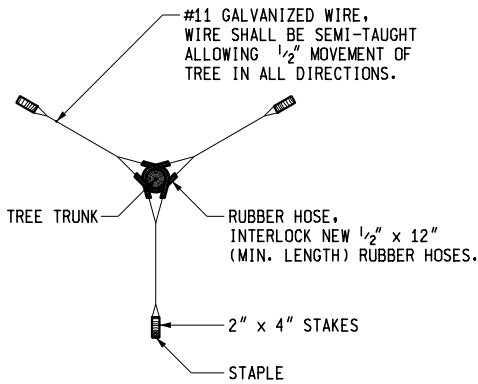
BRACING - VERTICAL STAKES



BRACING DETAIL

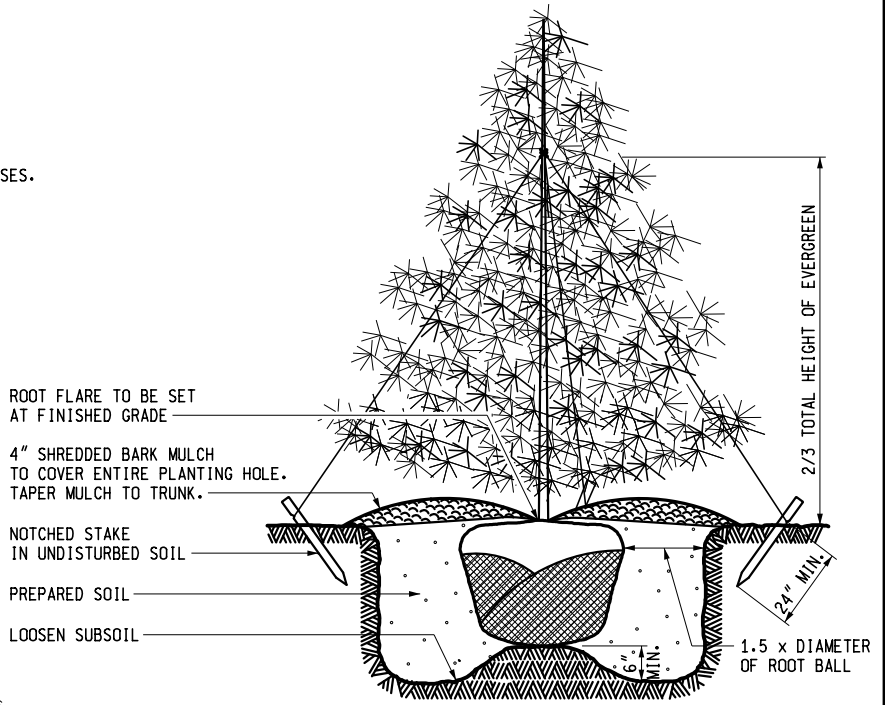
BRACE DECIDUOUS TREES 2" TO 4" IN CALIPER OR 8' OR MORE IN HEIGHT WITH TWO STAKES.

BRACE DECIDUOUS TREES LESS THAN 2" IN CALIPER OR 8' IN HEIGHT WITH ONE STAKE ON THE WESTERLY SIDE OF THE PLANT.

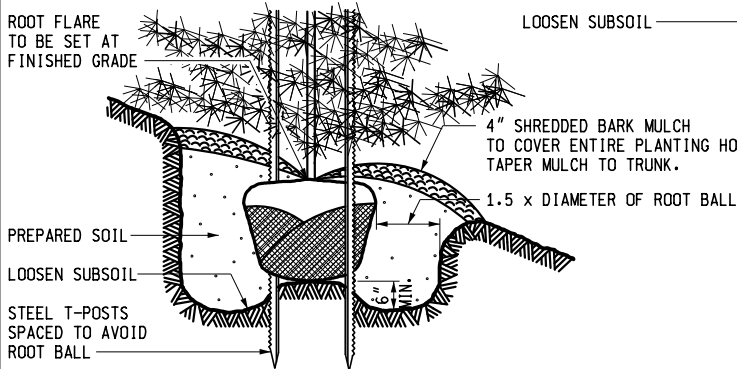


TRIPOD GUYING DETAIL

GUY EVERGREENS OVER 4" IN CALIPER OR 6' IN HEIGHT WITH THE TRIPOD METHOD AND UNDER 6' IN HEIGHT WITH TWO STAKES.



GUYING - TRIPOD METHOD

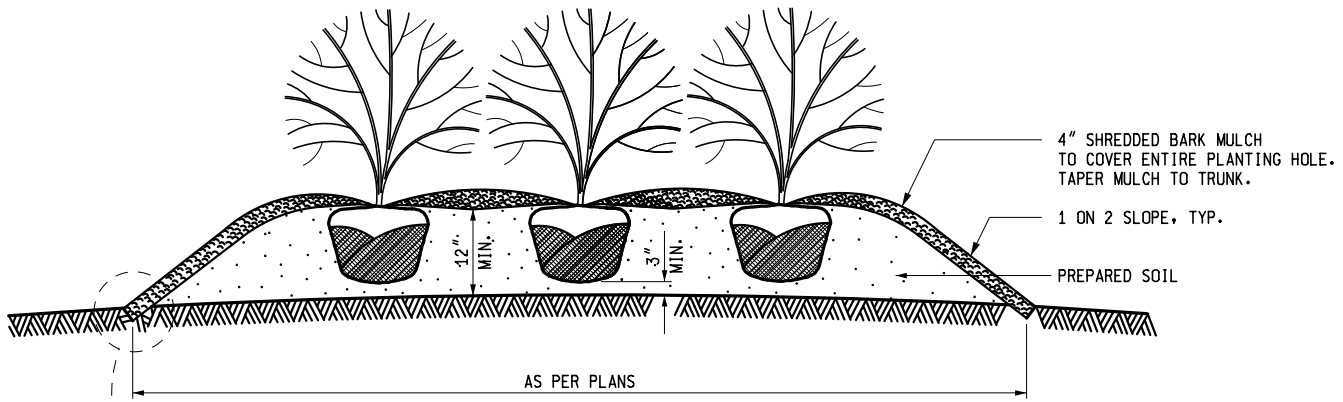


SLOPE PLANTING

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

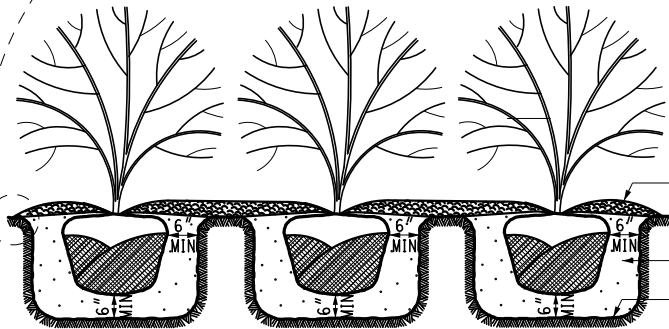
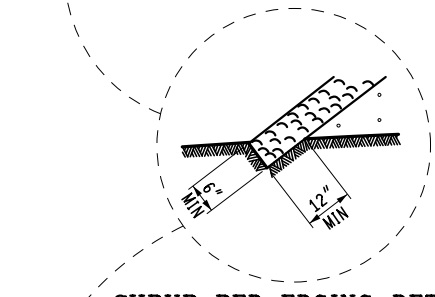
**SEEDING
AND TREE PLANTING**

F.H.W.A. APPROVAL	8-3-2021 PLAN DATE	R-100-I	SHEET 2 OF 4
-------------------	-----------------------	---------	-----------------



RAISED SHRUB BED DETAIL

SHRUB BED EDGING DETAIL



SHRUB BED DETAIL

FIRST AND SECOND WATERING AND CULTIVATION SHALL INCLUDE SHRUB BEDS.

CUT 6" X 12" (MIN.) EDGING AROUND THE PERIMETER OF ALL SHRUB BEDS SHOWN ON THE PLANS. SPRAY A NON-PERSISTENT GLYPHOSATE HERBICIDE TO ENTIRE SHRUB BEDS PRIOR TO PLANTING AND BARK PLACEMENT.

SHRUB BEDS ARE TO BE PAID FOR BY THE PAY ITEM 'SITE PREPARATION'.

ALL PLANTS SHALL BE SET PLUMB AND HAVE THE BEST SIDE OF PLANT FACING THE MAIN VIEWING DIRECTION.

PLANTING NOTES:

ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE - IMMEDIATELY.

LOOSEN SUBSOIL TO A DEPTH OF 4". LOOSEN EARTH ON SIDES OF PLANT POCKET TO BREAK ANY GLAZING CAUSED BY DIGGING.

FILL PREPARED SOIL TO 1/2 THE DEPTH OF THE ROOT BALL, PACK FIRMLY, AND PUDDLE WITH WATER.

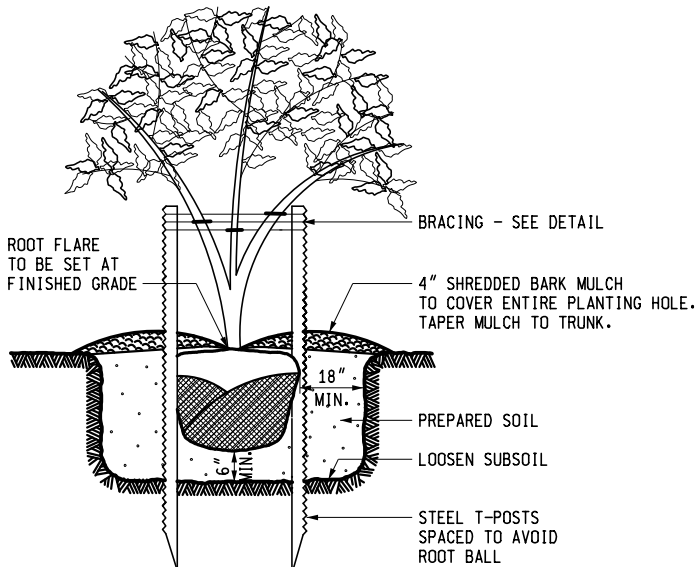
BACKFILL WITH PREPARED SOIL WHICH, AFTER COMPACTION, IS FLUSH WITH SURROUNDING GROUND LEVEL.

COVER ENTIRE PLANT POCKET AREA WITH 4" MULCH. PRUNE AND BRACE AND GUY.

WHEN PLANTS ARE FURNISHED IN CONTAINERS, CONTAINERS SHALL BE COMPLETELY REMOVED AT THE TIME OF PLANTING.

TREE HEIGHTS ARE SHOWN BEFORE PRUNING. TREE PLANTING DEPTHS ARE SHOWN AFTER SETTLING.

TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN 50' AND 30' RESPECTIVELY OF THE NEAREST EDGE OF METAL - EXCEPT WHERE INACCESSIBLE TO VEHICLES.

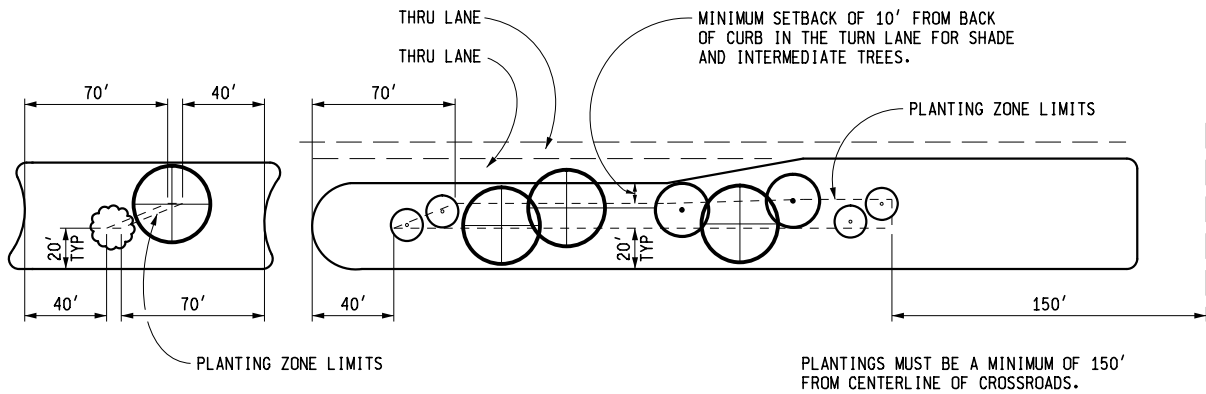


MULTIPLE STEM TREES

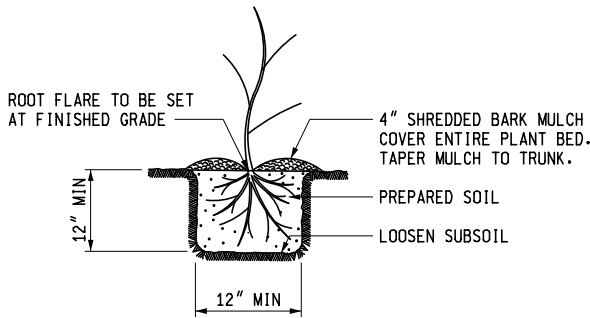
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SEEDING
AND TREE PLANTING**

F.H.W.A. APPROVAL	8-3-2021 PLAN DATE	R-100-I	SHEET 3 OF 4
-------------------	-----------------------	---------	-----------------



MEDIAN PLANTING
NOT TO SCALE



BARE ROOT PLANTS

PLANTING BARE ROOT PLANT MATERIAL

REFER TO THE "SPECIAL PROVISIONS FOR BARE ROOT PLANTING" FOR SHIPPING, STORAGE AND HANDLING REQUIREMENTS.

MAINTAIN ROOT MOISTURE BY KEEPING ROOTS IMMERSSED IN WATER PRIOR TO PLANTING.

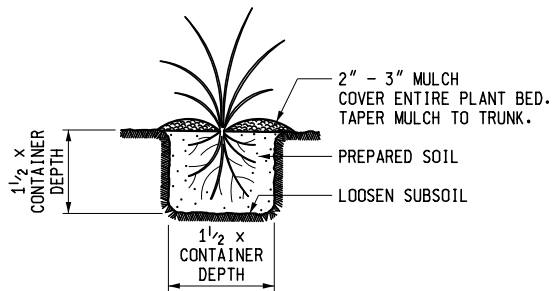
ROOT PRUNE AS NECESSARY TO REMOVE ALL DAMAGED OR BROKEN ROOTS, AND AS REQUIRED BY THE DISTRICT FORESTER OR RESOURCE SPECIALIST.

DIG PLANTING HOLES AT LEAST 12" WIDE AND 12" DEEP TO ACCOMMODATE ROOT MASS.

SET PLANTS PLUMB WITH THE ROOTS SPREAD PUT IN A NATURAL POSITION AT A DEPTH EQUAL TO THE DEPTH AT THE NURSERY.

HOLD PLANT FIRMLY AND PUDDLE (NOT TAMP) THE BACKFILL AROUND THE ROOTS WITH WATER. SUFFICIENT WATER SHALL BE USED TO ENSURE SATURATION OF THE BACKFILL, BUT CARE SHOULD BE TAKEN NOT TO OVERWATER, CAUSING A FLOATING SOIL MASS THAT PREVENTS COMPACTION AND MAY RESULT IN AIR POCKETS ADJACENT TO THE ROOTS. BACKFILL SHOULD BE FLUSH WITH THE GROUND AFTER COMPACTION.

COVER ENTIRE PLANT POCKET AREA WITH 4" MULCH AS SHOWN.



PERENNIAL PLANTS

FIRST AND SECOND WATERING AND CULTIVATION SHALL INCLUDE PERENNIAL BEDS.

PERENNIALS ARE TO BE FULLY DEVELOPED TWO YEAR #2 CONTAINER PLANTS.

ENTIRE PERENNIAL BED SHALL BE EXCAVATED DOWN 12" AND REPLACED WITH 12" OF PREPARED SOIL.

PERENNIAL BEDS ARE TO BE PAID FOR BY THE PAY ITEM 'SITE PREPARATION'.

SEEDING NOTES:

THIS STANDARD ILLUSTRATES THE TYPICAL USE OF SEEDING WITH MULCH, AS THESE ITEMS RELATE TO ROADWAY CONSTRUCTION. THE ACTUAL DESIGN AND MATERIALS USED TO CONSTRUCT THE COMPLETE SECTION, WHICH INCLUDES SEEDING WITH MULCHING, WILL BE ACCORDING TO THE PLANS AND CURRENT SPECIFICATIONS.

ITEMS CALLED FOR ON THIS STANDARD MAY ALSO BE USED DURING CONSTRUCTION AS AN EROSION CONTROL MEASURE. SEE STANDARD PLAN R-96-SERIES.

ALL DITCHES SHOULD HAVE HIGH VELOCITY MULCH BLANKET FOR EROSION CONTROL.

THE FIRST 8' BEHIND THE CURB OR SHOULDER IN URBAN MEDIAN AREAS WILL BE SEEDED, FERTILIZED, AND MULCHED WITH MULCH BLANKET. THE REMAINING AREAS WILL BE SEEDED, FERTILIZED, AND MULCHED WITH MULCH BLANKET OR STANDARD MULCH ANCHORED IN PLACE WITH A MULCH ADHESIVE OR WITH A MULCH NET.

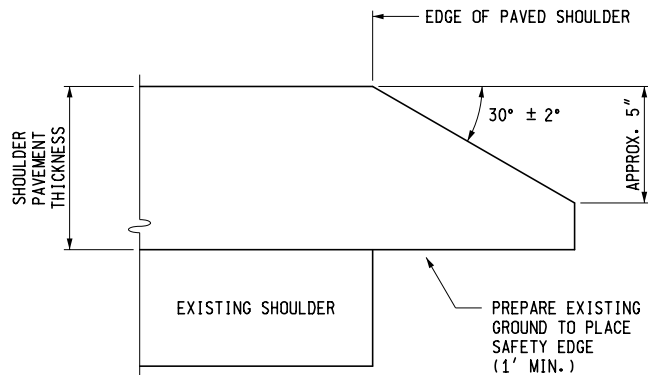
ALL AREAS WHERE MULCH BLANKET IS CALLED FOR SHALL BE SEEDED, FERTILIZED, AND TOPSOILED AS SPECIFIED ON PLANS. NO MULCH OR ANCHORING MULCH IS REQUIRED WHERE MULCH BLANKET IS INSTALLED.

BACKSLOPE RESTORATION TREATMENT SHALL BE THE SAME AS THE FRONT SLOPE.

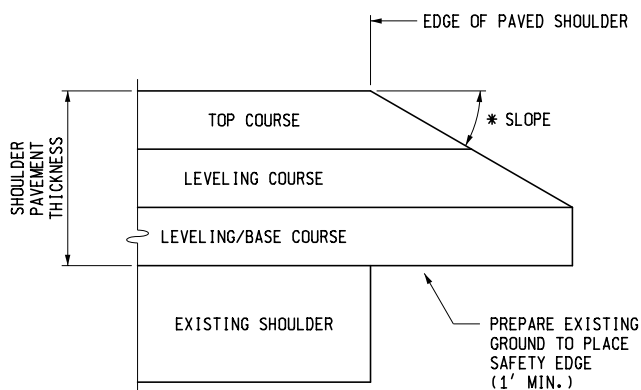
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SEEDING
AND TREE PLANTING**

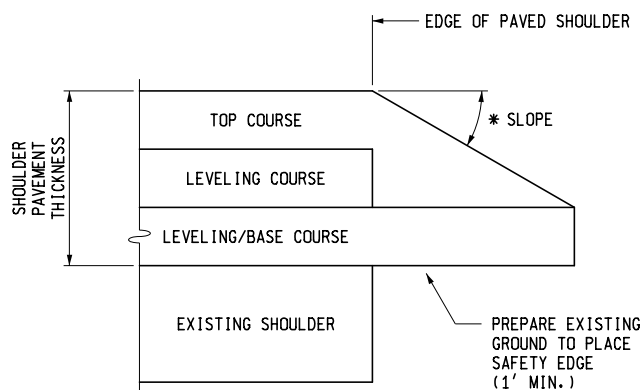
_____	8-3-2021	R-100-I	SHEET 4 OF 4
F.H.W.A. APPROVAL	PLAN DATE		



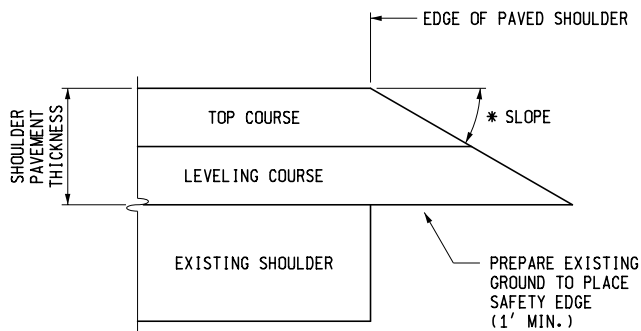
**SAFETY EDGE FOR CONCRETE PAVEMENT
OVERLAY**



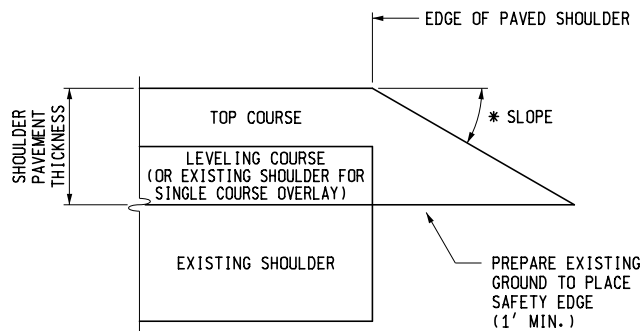
**CONFIGURATION 1 FOR
PAVEMENT THICKNESS GREATER THAN 5"**



**CONFIGURATION 2 FOR
PAVEMENT THICKNESS GREATER THAN 5"**



**CONFIGURATION 1 FOR
PAVEMENT THICKNESS 5" OR LESS**



**CONFIGURATION 2 FOR
PAVEMENT THICKNESS 5" OR LESS**

* THE RANGE FOR SLOPE IS:
29° MINIMUM
30° DESIRABLE
40° MAXIMUM

**SAFETY EDGE FOR HMA PAVEMENT
OVERLAY**



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____ 197
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

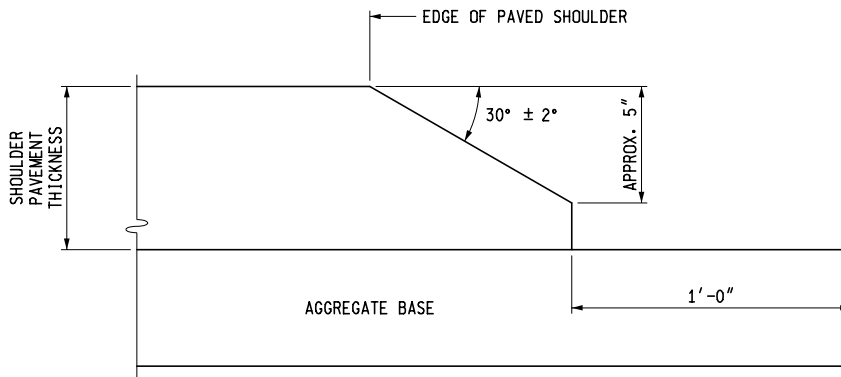
PAVEMENT SAFETY EDGE

F.H.W.A. APPROVAL

6-14-2021
PLAN DATE

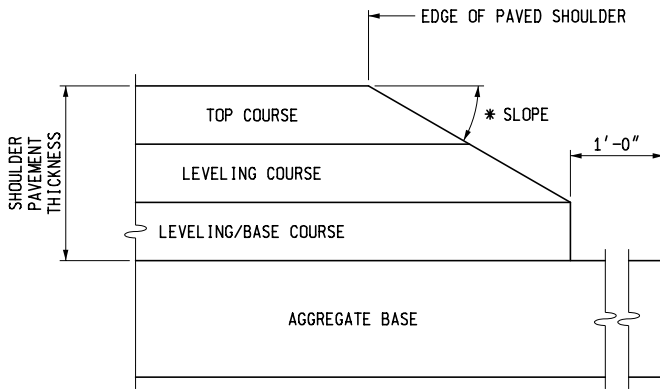
R-110-B

SHEET
1 OF 3

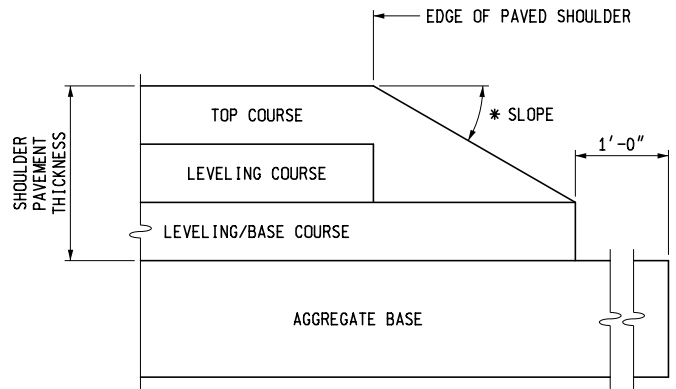


SAFETY EDGE FOR CONCRETE PAVEMENT

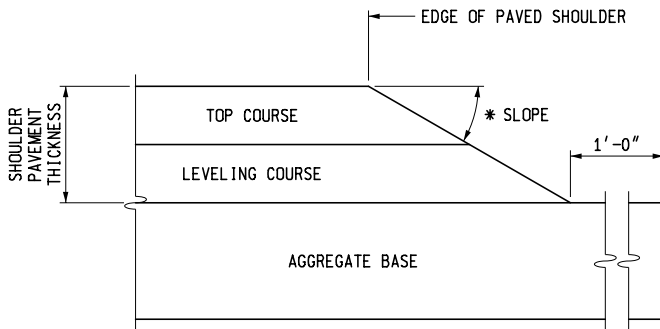
NEW CONSTRUCTION / RECONSTRUCTION



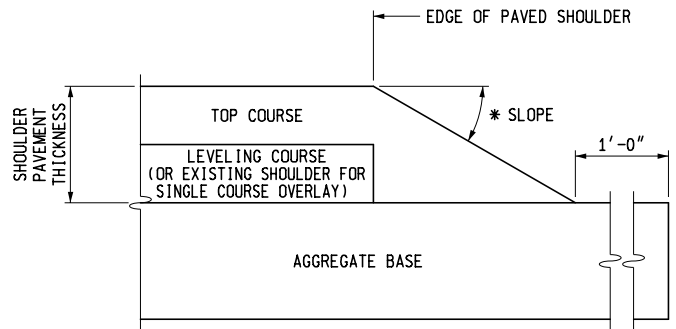
**CONFIGURATION 1 FOR
PAVEMENT THICKNESS GREATER THAN 5"**



**CONFIGURATION 2 FOR
PAVEMENT THICKNESS GREATER THAN 5"**



**CONFIGURATION 1 FOR
PAVEMENT THICKNESS 5" OR LESS**



**CONFIGURATION 2 FOR
PAVEMENT THICKNESS 5" OR LESS**

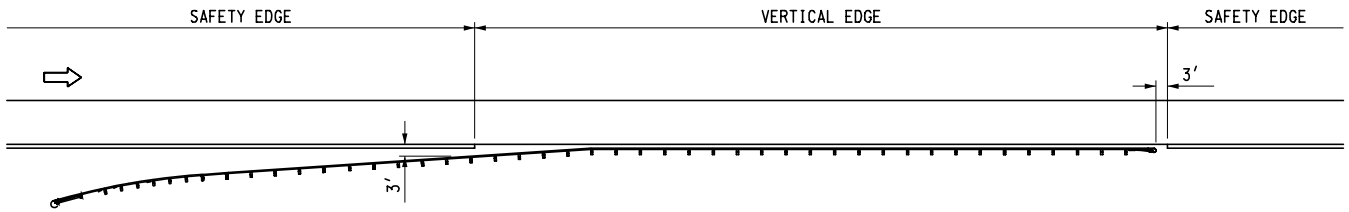
* THE RANGE FOR SLOPE IS:
29° MINIMUM
30° DESIREABLE
40° MAXIMUM

SAFETY EDGE FOR HMA PAVEMENT

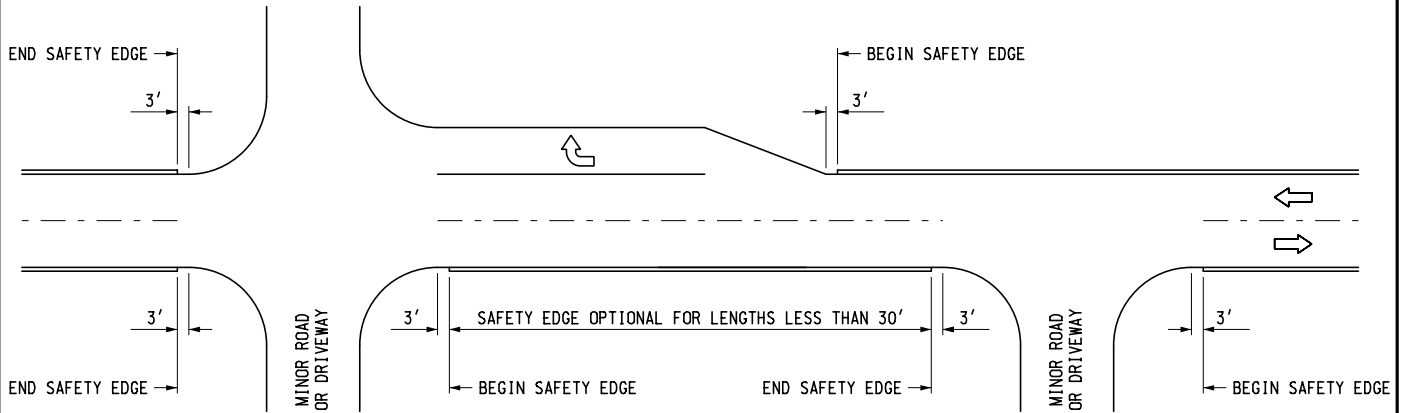
NEW CONSTRUCTION / RECONSTRUCTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

PAVEMENT SAFETY EDGE



SAFETY EDGE TREATMENT AT GUARDRAIL



SAFETY EDGE TREATMENT AT INTERSECTIONS AND DRIVEWAYS

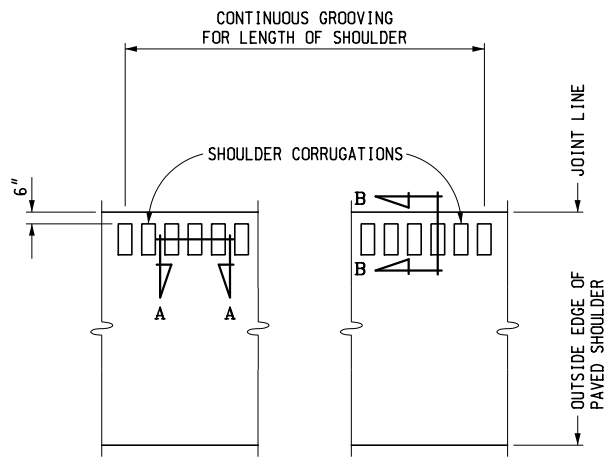
NOTES:

WHEN CALLED FOR, SAFETY EDGE ON FREEWAY OUTSIDE SHOULDERS WILL END PRIOR TO RAMP SHOULDER TRANSITIONS AND CONTINUE WHERE FULL MAINLINE SHOULDER RESUMES.

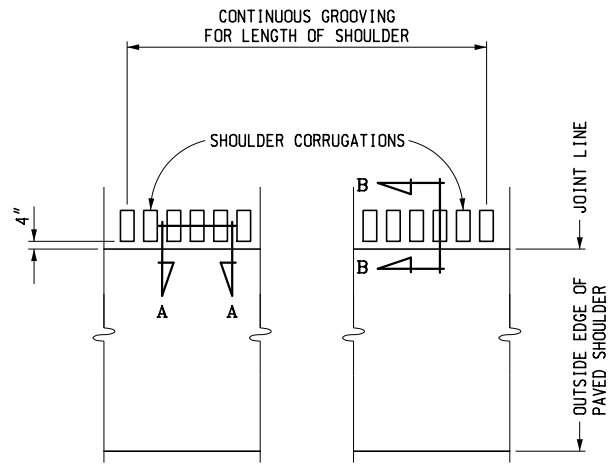
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

PAVEMENT SAFETY EDGE

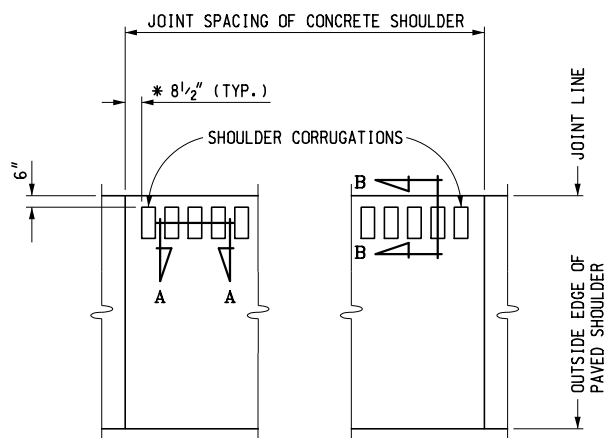
	6-14-2021 PLAN DATE	R-110-B	SHEET 3 OF 3
199	F.H.W.A. APPROVAL		



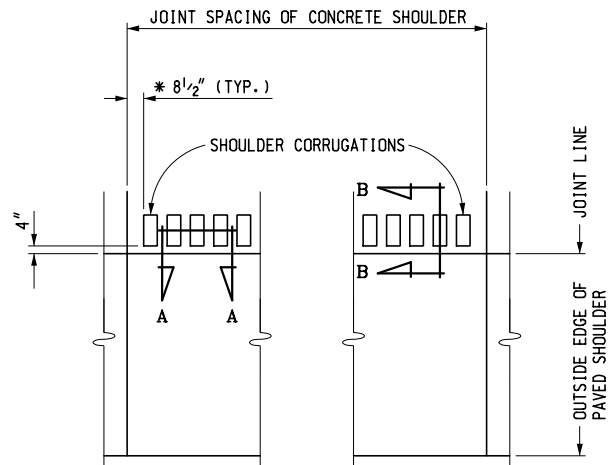
HMA SHOULDER PLAN
ADJACENT TO 12' LANE



HMA SHOULDER PLAN
ADJACENT TO 14' LANE



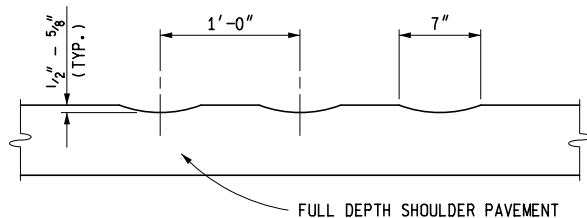
CONCRETE SHOULDER PLAN
ADJACENT TO 12' LANE



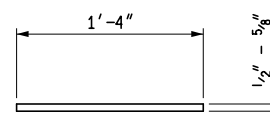
CONCRETE SHOULDER PLAN
ADJACENT TO 14' LANE

* THE DISTANCE FROM THE CORRUGATION TO THE TRANSVERSE JOINT SHALL BE AT LEAST 6" BUT LESS THAN 12".

* THE DISTANCE FROM THE CORRUGATION TO THE TRANSVERSE JOINT SHALL BE AT LEAST 6" BUT LESS THAN 12".



SECTION A - A



SECTION B - B

FREEWAY SHOULDER CORRUGATIONS
(FOR FREEWAY SHOULDERS PAVED 4 FEET OR GREATER)



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT 200

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

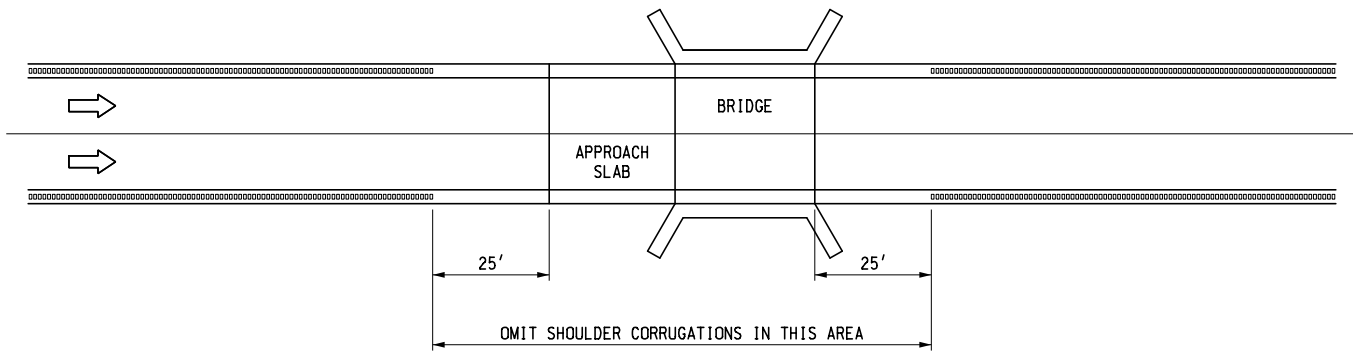
**SHOULDER AND CENTER LINE
CORRUGATIONS**

F.H.W.A. APPROVAL

9-7-2022
PLAN DATE

R-112-J

SHEET
1 OF 10



SHOULDER CORRUGATIONS AT BRIDGES
 FREEWAY SHOULDER CORRUGATIONS
 (FOR FREEWAY SHOULDERS PAVED 4 FEET OR GREATER)

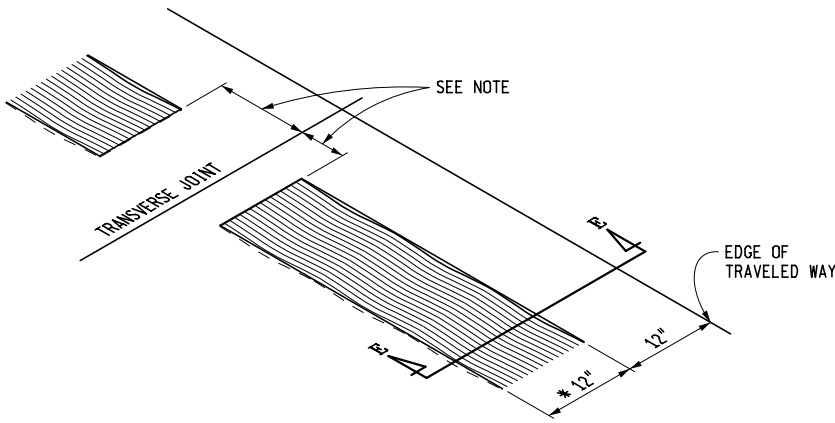
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SHOULDER AND CENTER LINE
 CORRUGATIONS**

F.H.W.A. APPROVAL	9-7-2022 PLAN DATE	R-112-J	SHEET 2 OF 10
-------------------	-----------------------	---------	------------------

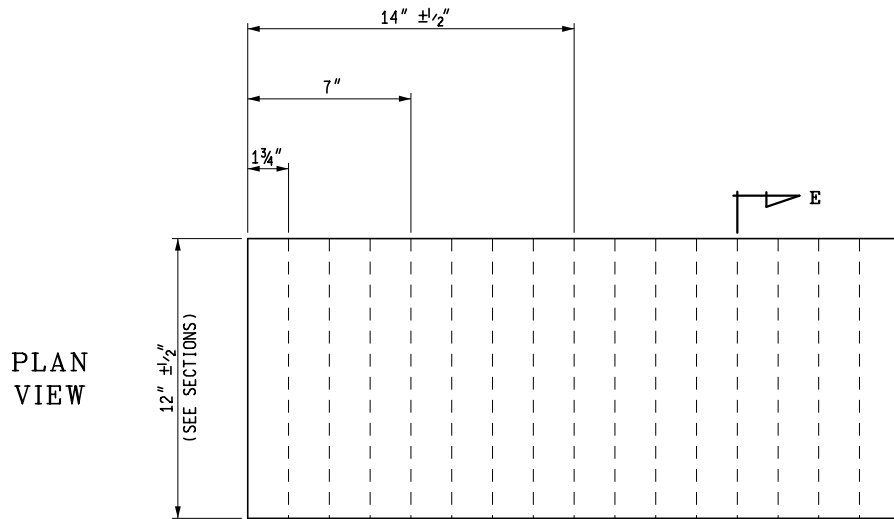
* LATERAL DEVIATION SHALL NOT EXCEED 1" IN 100'.

NOTE:

ON CONCRETE PAVEMENTS, THE DISTANCE FROM A SHOULDER CORRUGATION TO A TRANSVERSE JOINT SHALL BE AT LEAST 6" BUT LESS THAN 12".



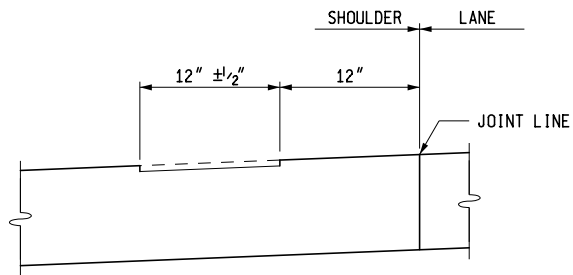
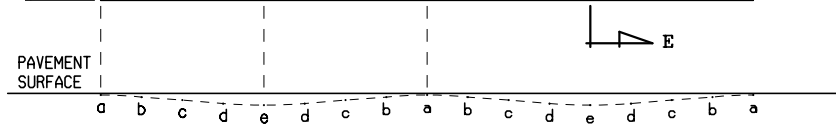
TYPICAL NON-FREEWAY SHOULDER CORRUGATION INSTALLATION



LOCATION	DEPTH AT EDGE	
	MILS	INCHES *
a	62.5	1/16
b	156	5/32
c	281	9/32
d	438	7/16
e	500	1/2

* +1/8"

PROFILE VIEW

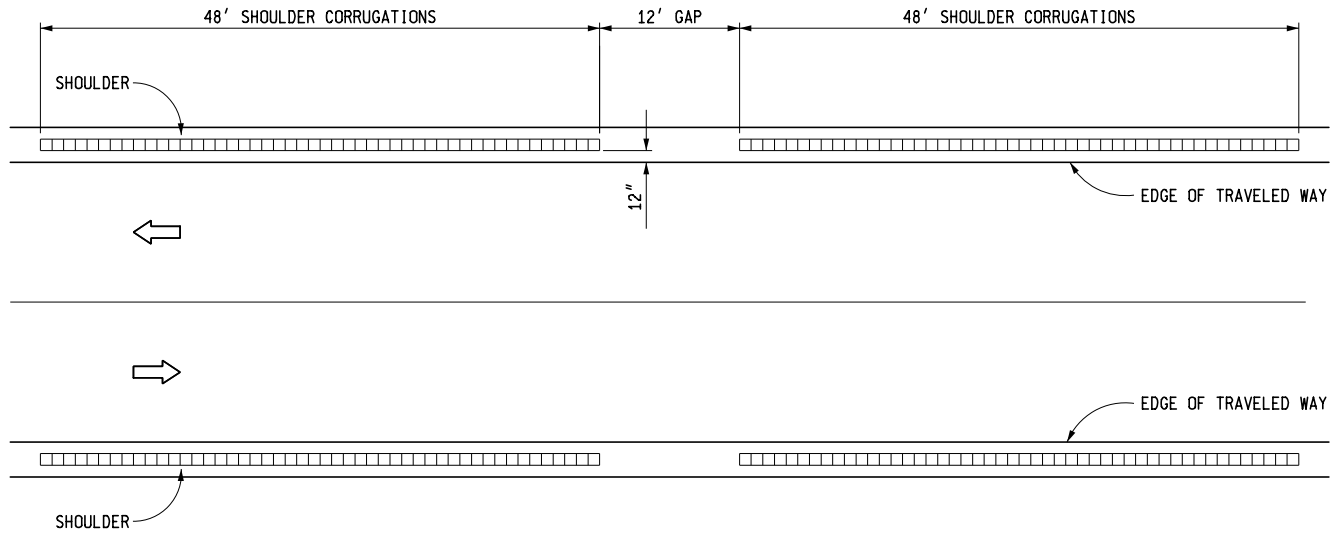


SECTION E-E
CONCRETE & HMA SHOULDER

SINUSOIDAL CORRUGATIONS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SHOULDER AND CENTER LINE CORRUGATIONS



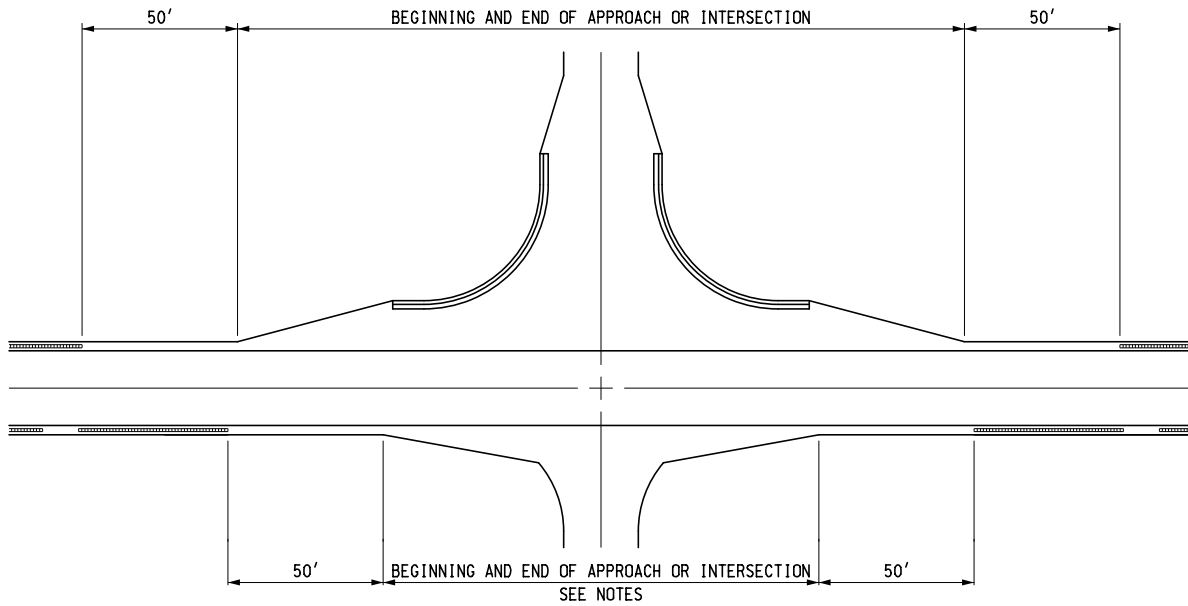
SHOULDER CORRUGATIONS ON TWO-WAY ROADWAYS

NON-FREEWAY SHOULDER CORRUGATIONS

(FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)

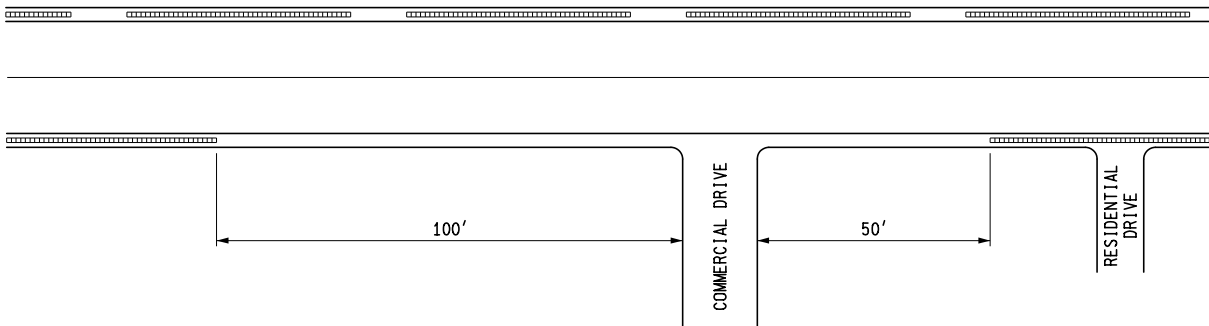
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SHOULDER AND CENTER LINE
 CORRUGATIONS**

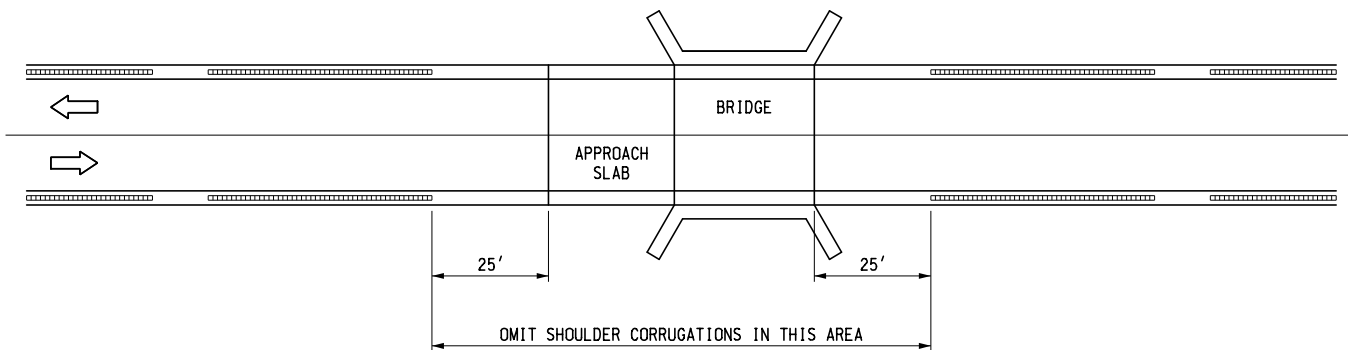


NOTE:

SHOULDER CORRUGATIONS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVES, WHEN DIRECTED BY THE ENGINEER.



SHOULDER CORRUGATIONS AT INTERSECTIONS

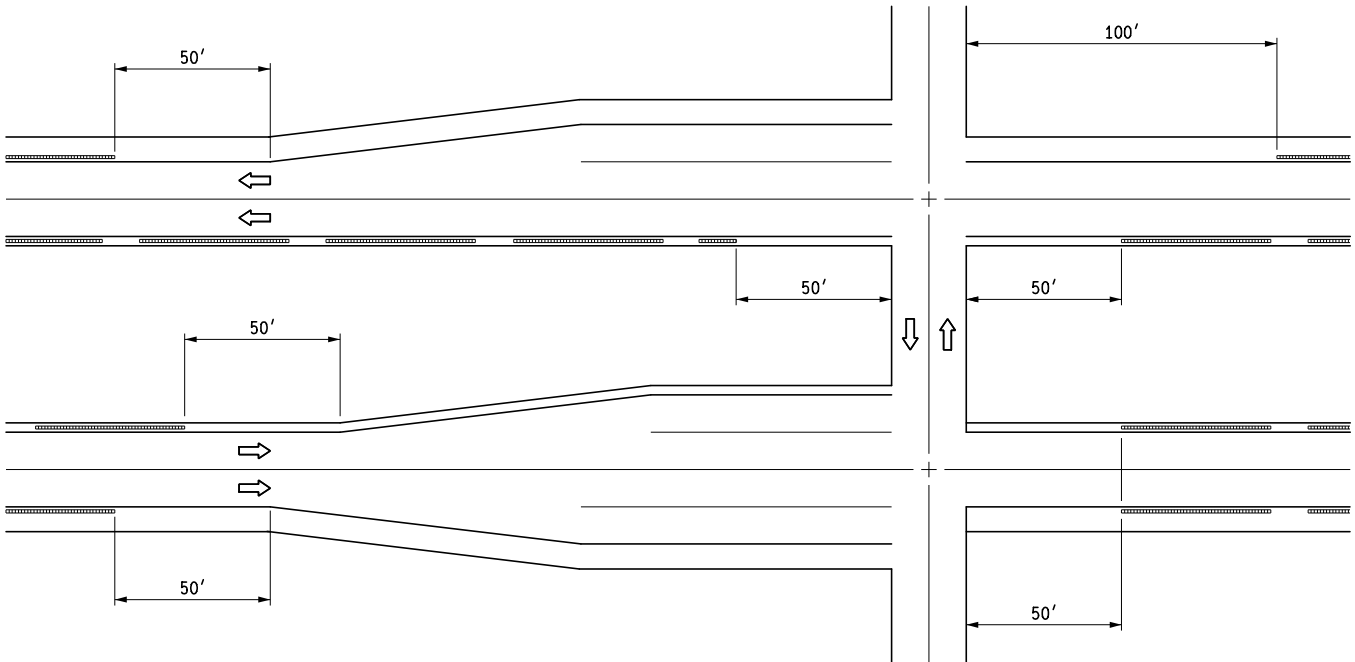


SHOULDER CORRUGATIONS AT BRIDGES

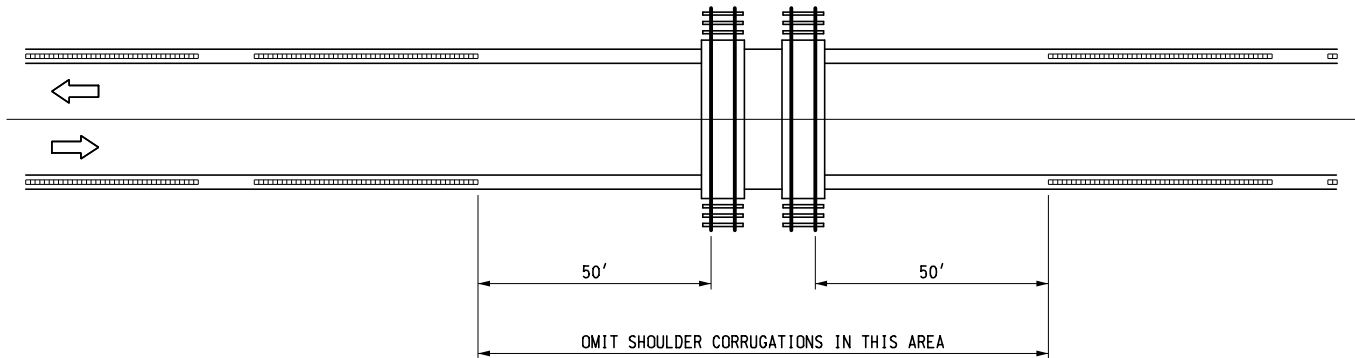
**NON-FREEWAY SHOULDER CORRUGATIONS
(FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)**

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SHOULDER AND CENTER LINE
CORRUGATIONS**



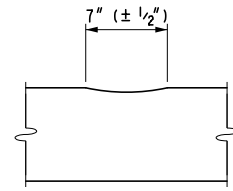
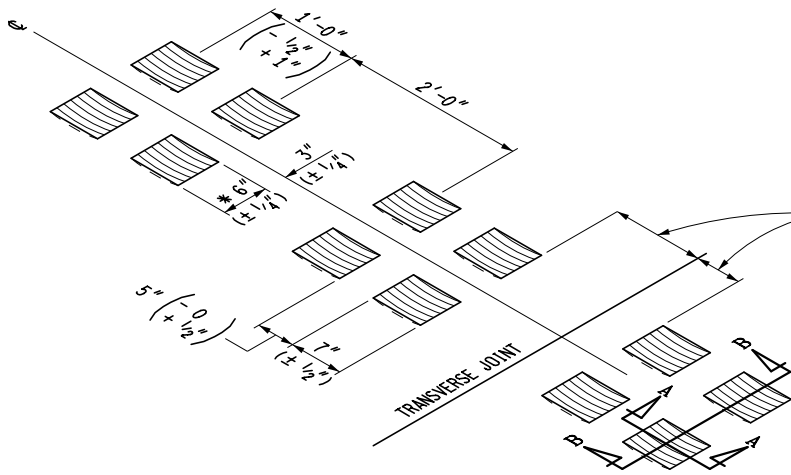
SHOULDER CORRUGATIONS AT INTERSECTIONS



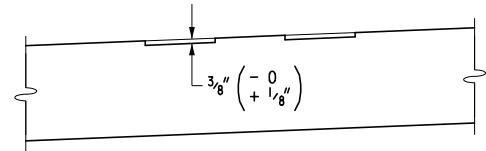
SHOULDER CORRUGATIONS AT RAILROADS

NON-FREEWAY SHOULDER CORRUGATIONS
 (FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)

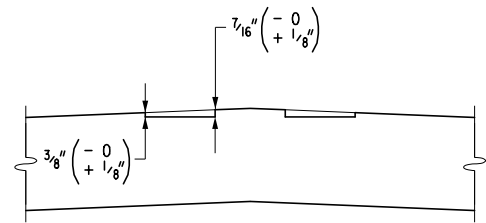
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR		
SHOULDER AND CENTER LINE CORRUGATIONS		
	9-7-2022 PLAN DATE	R-112-J
205	F.H.W.A. APPROVAL	SHEET 6 OF 10



SECTION A-A



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY

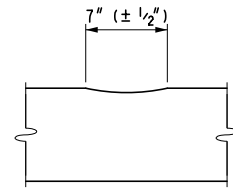
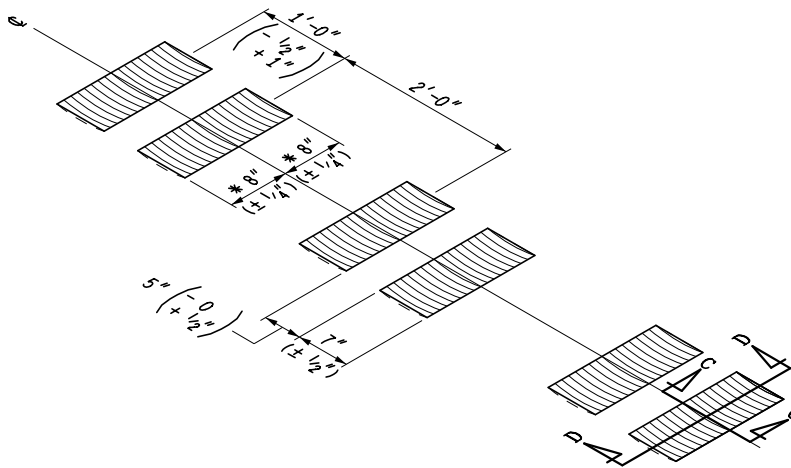
**TYPICAL NON-FREEWAY CENTER LINE
CORRUGATION INSTALLATION
FOR CONCRETE PAVEMENT**

* LATERAL DEVIATION SHALL NOT EXCEED 1" IN 100'.

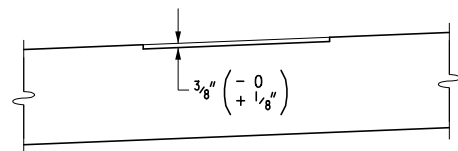
NOTES:

ON CONCRETE PAVEMENTS, THE DISTANCE FROM A CENTER LINE CORRUGATION TO A TRANSVERSE JOINT SHALL BE AT LEAST 6" BUT LESS THAN 12".

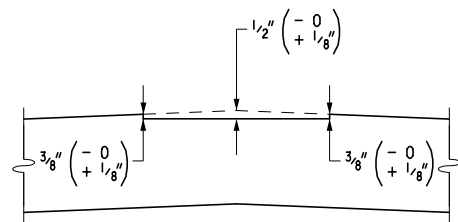
ON CONCRETE PAVEMENTS, CORRUGATIONS MAY BE CONSTRUCTED IN TWO PASSES AND THEREFORE NOT BE SYMMETRICAL ACROSS THE CENTER LINE.



SECTION C-C



SECTION D-D
SUPERELEVATED ROADWAY



SECTION D-D
CROWNED ROADWAY

**TYPICAL NON-FREEWAY CENTER LINE
CORRUGATION INSTALLATION
FOR HMA PAVEMENT**

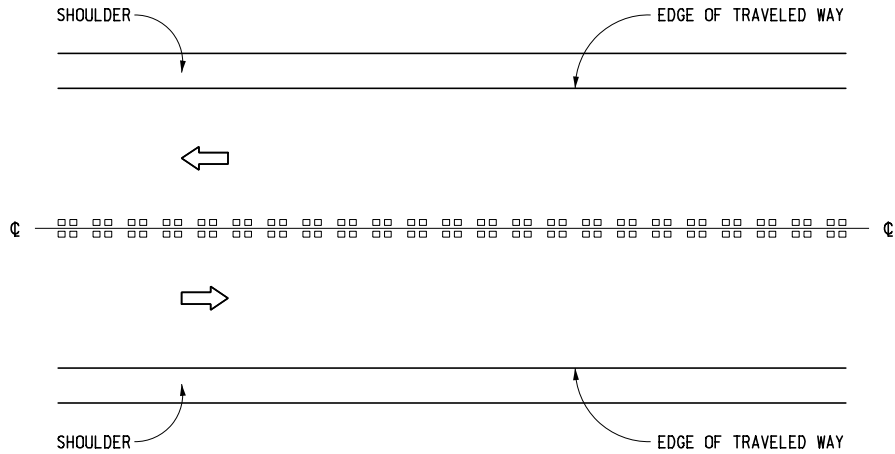
* LATERAL DEVIATION SHALL NOT EXCEED 1" IN 100'.

NON-FREEWAY CENTER LINE CORRUGATIONS

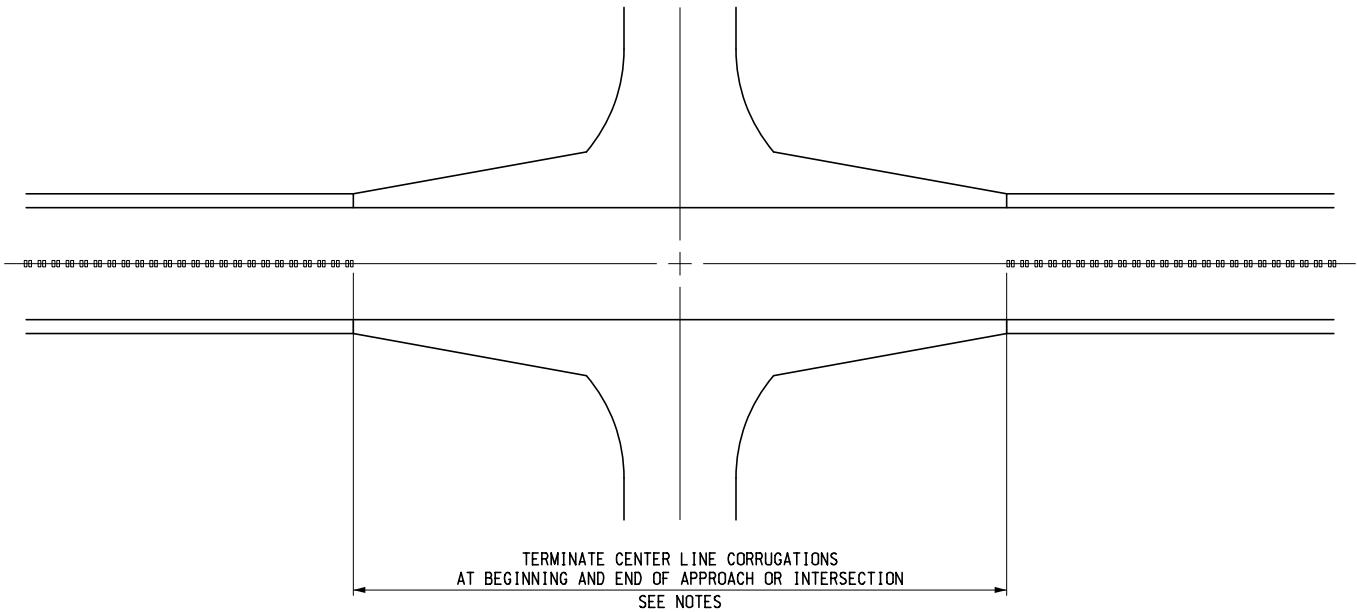
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SHOULDER AND CENTER LINE
CORRUGATIONS**

	9-7-2022 PLAN DATE	R-112-J	SHEET 7 OF 10
206	F.H.W.A. APPROVAL		



CENTER LINE CORRUGATIONS ON TWO-WAY ROADWAYS

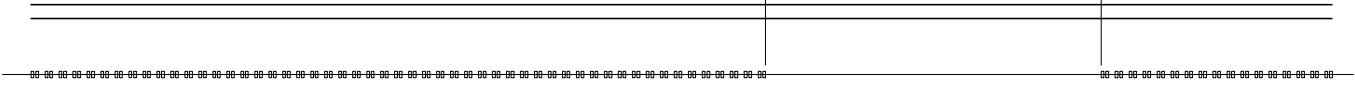


CENTER LINE CORRUGATIONS AT INTERSECTIONS

NON-FREEWAY CENTER LINE CORRUGATIONS

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR		
SHOULDER AND CENTER LINE CORRUGATIONS		
	9-7-2022 <small>PLAN DATE</small>	R-112-J
207 <small>F.H.W.A. APPROVAL</small>		<small>SHEET</small> 8 OF 10

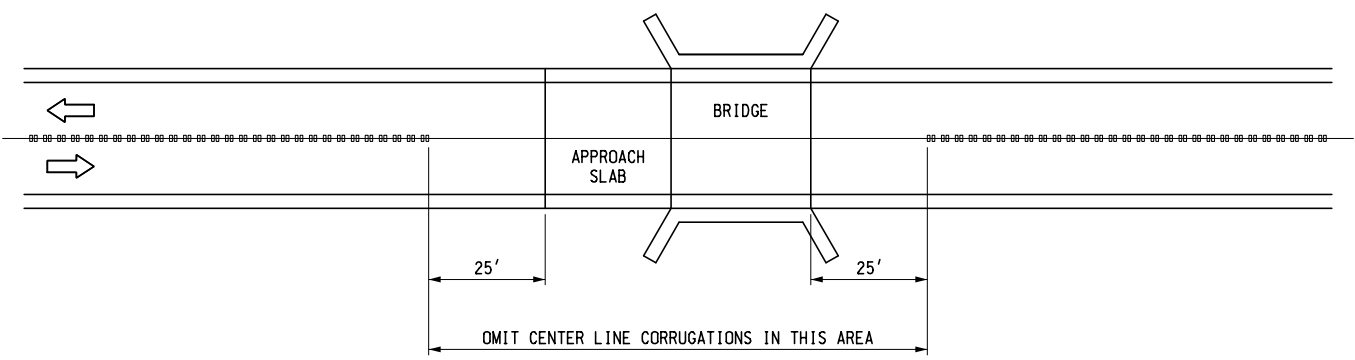
TERMINATE CENTER LINE CORRUGATIONS
 3 TIMES WIDTH OF COMMERCIAL DRIVE
 OR AS DIRECTED BY THE ENGINEER
 SEE NOTES



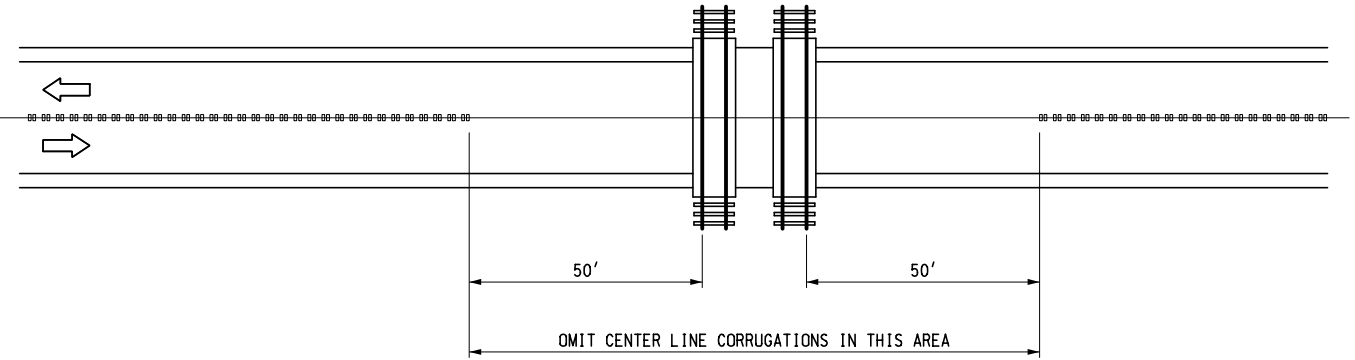
RESIDENTIAL
 DRIVE

COMMERCIAL
 DRIVE

CENTER LINE CORRUGATIONS AT DRIVEWAYS



CENTER LINE CORRUGATIONS AT BRIDGES



CENTER LINE CORRUGATIONS AT RAILROADS

NON-FREEWAY CENTER LINE CORRUGATIONS

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS		
_____ F.H.W.A. APPROVAL	9-7-2022 _____ PLAN DATE	R-112-J
208		SHEET 9 OF 10

NOTES: (NON-FREEWAY)

SHOULDER CORRUGATION CROSS-SECTIONS AND LOCATIONS SHALL BE AS DETAILED ON THIS STANDARD. CORRUGATIONS ON NON-FREEWAYS SHALL BE IN CONCRETE AND HMA SHOULDERS PAVED AT LEAST 6'-0" WIDE WITH A POSTED SPEED OF 55 MPH. CORRUGATIONS CAN BE USED IN OTHER SITUATIONS WHERE THEY HAVE BEEN PREVIOUSLY APPROVED USING CURRENT GUIDELINES.

CORRUGATIONS SHALL NOT BE PLACED OVER A TRANSVERSE SHOULDER JOINT.

DO NOT MILL SHOULDER OR CENTER LINE CORRUGATIONS THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

NOTES: (FREEWAY)

SHOULDER CORRUGATION CROSS-SECTIONS AND LOCATIONS SHALL BE AS DETAILED ON THIS STANDARD. CORRUGATIONS ON FREEWAYS SHALL BE IN CONCRETE AND HMA SHOULDERS PAVED 4'-0" OR WIDER OR WHERE THE SHOULDER LIES BETWEEN THE PAVEMENT AND VALLEY GUTTER OR CURB AND GUTTER. CORRUGATIONS WILL NOT BE USED IN FREEWAY EXIT/ENTRANCE RAMP SHOULDERS OR WHERE SHOULDERS ARE SEPARATED FROM THE PAVEMENT BY VALLEY GUTTER OR CURB AND GUTTER. EXCEPT FOR LOOP RAMP, CORRUGATIONS WILL BE USED ON FREEWAY TO FREEWAY RAMP.

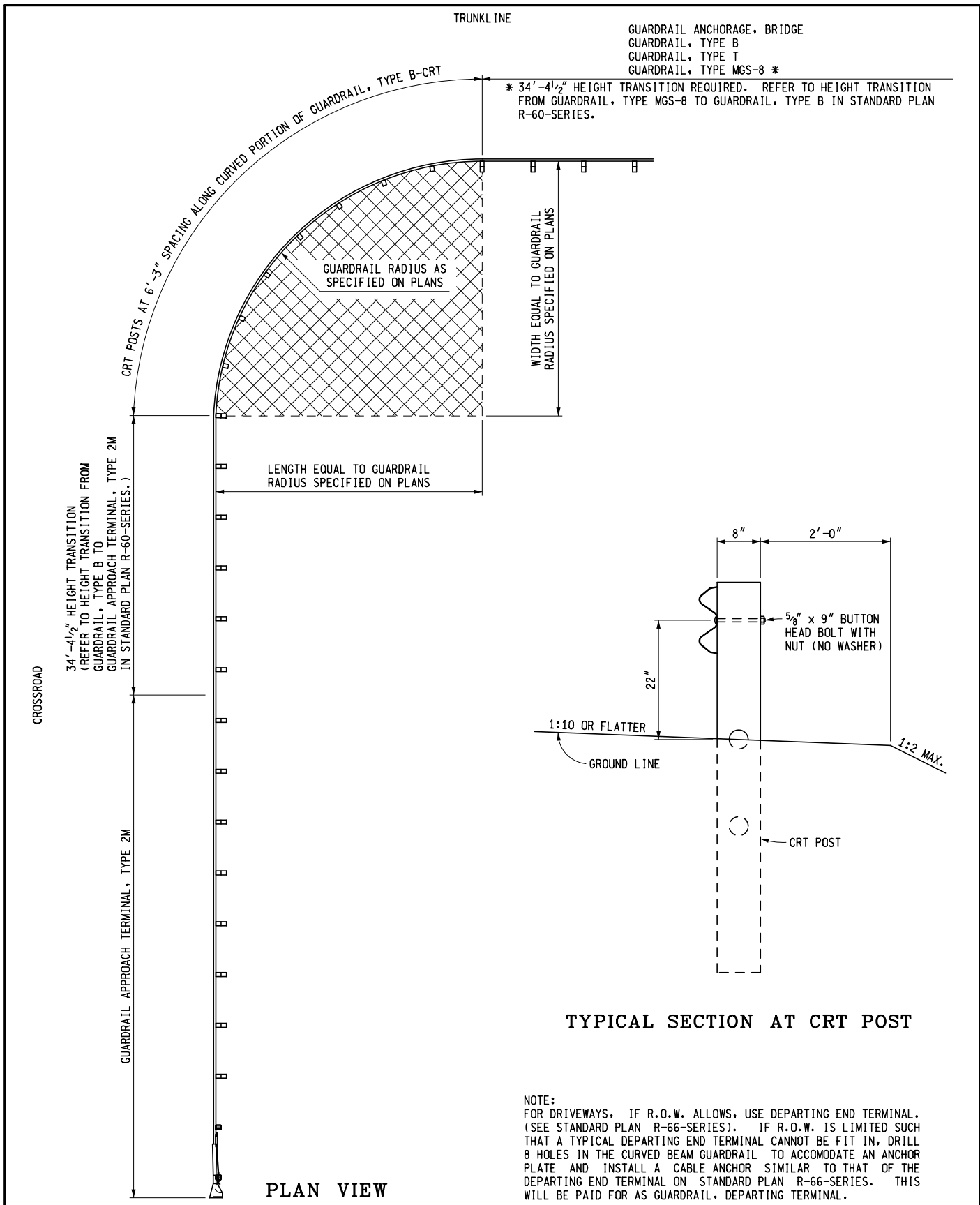
CORRUGATIONS SHALL NOT BE PLACED OVER A TRANSVERSE SHOULDER JOINT.

CORRUGATION LOCATION IN THE AREA OF FREEWAY RAMP WILL BE AS FOLLOWS: THE TYPICAL OFFSET WILL BE INCREASED TO 24" AND BE LOCATED ON THE SHOULDER SIDE OF THE JOINT BEGINNING 300' IN ADVANCE OF THE EXIT RAMP TAPER. THIS OFFSET WILL CONTINUE UNTIL THE 2' POINT OF THE GORE. FOR EXIT/ENTRANCE RAMP AND LOOPS RAMP THE CORRUGATIONS WILL END ALONG THE RAMP AT THIS POINT AND SIMULTANEOUSLY RESUME ON THE MAINLINE SHOULDER AND GORE WITH THE NORMAL OFFSET. THE CONFIGURATION FOR ENTRANCE RAMP WILL BE IN THE REVERSE ORDER OF THE EXIT RAMP. FOR FREEWAY TO FREEWAY RAMP, IN ADDITION TO RESUMING THE MAINLINE SHOULDER CORRUGATION AT THIS POINT, RETURN TO THE NORMAL MAINLINE OFFSET ALONG THE LENGTH OF THE RAMP SHOULDER.

WITHIN AN URBAN FREEWAY AREA OR OTHER LIMITED FREEWAY AREA, SHOULDER CORRUGATIONS MAY BE OFFSET UP TO 12" FROM THE EDGE OF THE TRAVEL LANE, AS SHOWN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. IF NEEDED, THE CORRUGATION MAY BE LOCATED ON THE OPPOSITE SIDE OF THE JOINT FOR 14' LANES TO MAINTAIN THE MINIMUM OFFSET TO THE JOINT LINE.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SHOULDER AND CENTER LINE
CORRUGATIONS



PREPARED BY
 DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
 Paul C. Ajegba

APPROVED BY: _____
 DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____ 210
 DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT SPECIAL DETAIL FOR

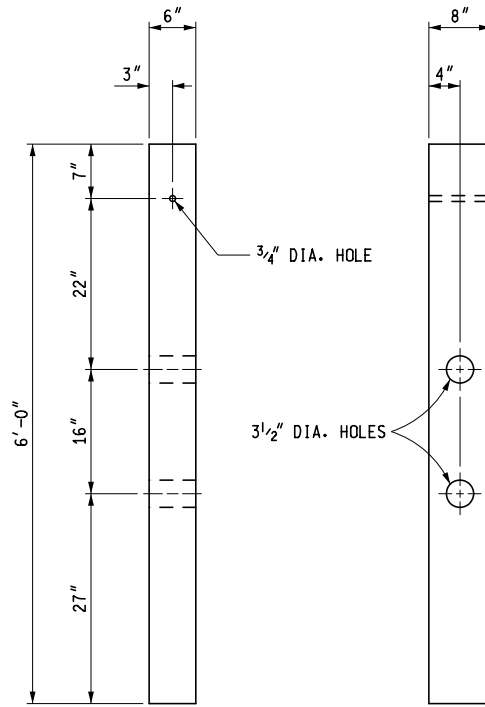
GUARDRAIL AT INTERSECTIONS

 F.H.W.A. APPROVAL

6-6-2022
 PLAN DATE

SPECIAL
 DETAIL 21

SHEET
 1 OF 2



**CONTROLLED RELEASING TERMINAL POST
(CRT)**

NOTES:

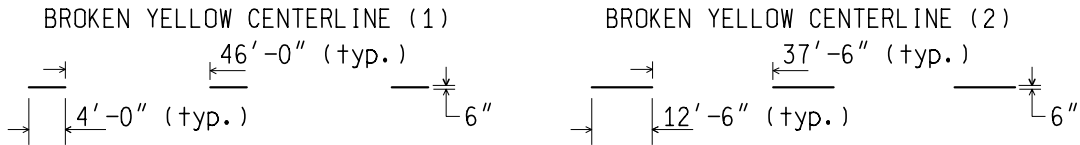
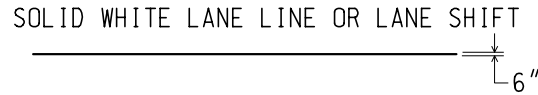
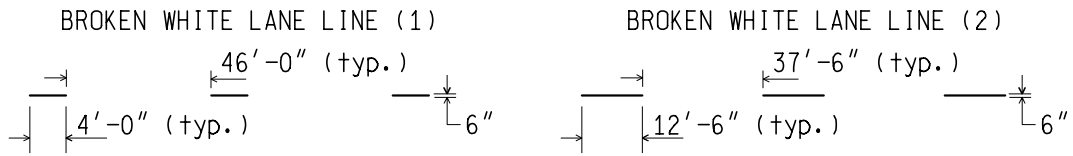
THE SLOPE IN FRONT OF THE INSTALLATION SHOULD NOT EXCEED 1:10 AND EXTEND TO 2'-0" BEYOND THE GUARDRAIL POST. THE SLOPE BEYOND THIS HINGE LINE SHALL BE 1:2 OR FLATTER.

THE CROSS HATCHED AREA BEHIND THE CURVED GUARDRAIL SHOULD BE KEPT FREE OF FIXED OBJECTS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT SPECIAL DETAIL FOR

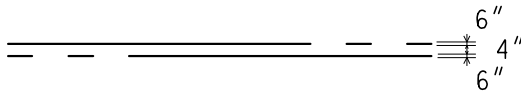
GUARDRAIL AT INTERSECTIONS

TYPES OF TEMPORARY LONGITUDINAL LINES

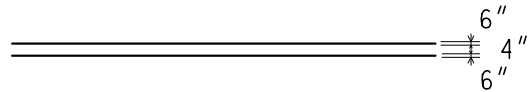


LINE PATTERNS

TWO - LANE PASSING PROHIBITED (YELLOW)




DOUBLE SOLID YELLOW (OR WHITE)



Notes:

1. See project documents for correct broken line pattern.

 PREPARED BY TSMO DIVISION DRAWN BY: <u>MKB</u> CHECKED BY: <u>KMW</u>	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: _____ (SPECIAL DETAIL) DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT		
	APPROVED BY: _____ (SPECIAL DETAIL) 212 DIRECTOR, BUREAU OF DEVELOPMENT	(SPECIAL DETAIL) F.H.W.A. APPROVAL	(SPECIAL DETAIL) PLAN DATE	PAVE-904-B SHEET 1 OF 2

NOTICE TO BIDDERS - INQUIRY

All inquiries concerning the plans and proposal for this project are to be directed to:

Name

Title

MDOT-eProposal@Michigan.gov

E-mail Address

All inquiries must be made by E-mail through the electronic proposal system at [MILogin for Third Party](#)'s MDOT e-Proposal application.

Telephone inquiries will not be answered.

To be able to process and distribute an addendum, if required, all inquiries shall be made at least seven (7) calendar days before the letting.

Inquiries made after this date will be considered by MDOT, but will not require a response.

Inquiries made by MDOT's e-Proposal application must include the following information:

- Proposal Item Number
- Contract ID
- Name of Inquiring Person
- Company Name
- Phone and E-mail address
- Detailed question(s) with reference to proposal page and plan sheet number

Other employees of MDOT have been instructed to direct all inquiries to the person mentioned above.

07/2021

"General Decision Number: **MI20230001 08/25/2023**

Superseded General Decision Number: MI20220001

State: Michigan

Construction Types: Highway (Highway, Airport & Bridge xxxxx and Sewer/Incid. to Hwy.)

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: 	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: 	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the

Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	02/03/2023
2	02/17/2023
3	03/17/2023
4	05/12/2023
5	05/19/2023
6	05/26/2023
7	07/21/2023
8	08/25/2023

CARP0004-004 06/01/2019

REMAINDER OF STATE

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 27.62	20.59

CARP0004-005 06/01/2018

LIVINGSTON (Townships of Brighton, Deerfield, Genoa, Hartland, Oceola & Tyrone), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 30.50	27.28

ELEC0017-005 06/01/2022

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver.....	\$ 29.57	7.20+32%
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers.	\$ 43.90	7.20+32%

Journeyman Specialist.....	\$ 50.49	7.20+32%
Operator A.....	\$ 37.13	7.20+32%
Operator B.....	\$ 34.67	7.20+32%

Classifications

Journeyman Specialist: Refers to a crew of only one person working alone.

Operator A: Shall be proficient in operating all power equipment including: Backhoe, Excavator, Directional Bore and Boom/Digger truck.

Operator B: Shall be proficient in operating any 2 of the above mentioned pieces of equipment listed under Operator A.

ENGI0324-003 06/01/2023

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LENAWEE, LIVINGSTON, MACOMB, MIDLAND, MONROE, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLAIR, SANILAC, SHIAWASSEE, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 54.02	25.25
GROUP 3.....	\$ 51.52	25.25
GROUP 4.....	\$ 52.52	25.25
GROUP 5.....	\$ 50.02	25.25
GROUP 6.....	\$ 51.02	25.25
GROUP 7.....	\$ 49.75	25.25
GROUP 8.....	\$ 50.75	25.25
GROUP 9.....	\$ 49.30	25.25
GROUP 10.....	\$ 50.30	25.25
GROUP 11.....	\$ 48.57	25.25
GROUP 12.....	\$ 49.57	25.25
GROUP 13.....	\$ 48.21	25.25
GROUP 14.....	\$ 49.21	25.25
GROUP 15.....	\$ 47.57	25.25
GROUP 16.....	\$ 44.37	25.25
GROUP 17.....	\$ 28.89	12.40
GROUP 18.....	\$ 33.38	25.25

FOOTNOTE:

Paid Holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Engineer when operating combination of boom and jib 400' or longer

GROUP 2: Engineer when operating combination of boom and jib 400' or longer on a crane that requires an oiler

GROUP 3: Engineer when operating combination of boom and jib 300' or longer

GROUP 4: Engineer when operating combination of boom and jib 300' or longer on a crane that requires an oiler

GROUP 5: Engineer when operating combination of boom and jib 220' or longer

GROUP 6: Engineer when operating combination of boom and jib 220' or longer on a crane that requires an oiler

GROUP 7: Engineer when operating combination of boom and jib 140' or longer

GROUP 8: Engineer when operating combination of boom and jib 140' or longer on a crane that requires an oiler

GROUP 9: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level)

GROUP 10: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level) on a crane that requires an oiler

GROUP 11: Engineer when operating combination of boom and jib 120' or longer

GROUP 12: Engineer when operating combination of boom and jib 120' or longer on a crane that requires an oiler

GROUP 13: Crane operator; job mechanic and 3 drum hoist and excavator

GROUP 14: Crane operator on a crane that requires an oiler

GROUP 15: Hoisting operator; 2 drum hoist and rubber tired backhoe

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

ENGI0324-004 06/01/2023

AREA 1: ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, EATON, HILLSDALE, IONIA, KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN

AREA 2: ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE AND WEXFORD COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment		
(Steel Erection)		
AREA 1		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 49.75	25.25
GROUP 3.....	\$ 48.21	25.25
GROUP 4.....	\$ 44.37	25.25
GROUP 5.....	\$ 28.89	12.40
GROUP 6.....	\$ 33.38	25.25
AREA 2		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 49.75	24.25
GROUP 3.....	\$ 48.21	25.25
GROUP 4.....	\$ 44.37	25.25
GROUP 5.....	\$ 28.89	12.40
GROUP 6.....	\$ 33.38	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: \$3.00 additional to the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Crane Operator with main boom & jib 400', 300', or 220' or longer.

GROUP 2: Crane Operator with main boom & jib 140' or longer, Tower Crane; Gantry Crane; Whirley Derrick.

GROUP 3: Regular Equipment Operator, Crane, Dozer, Loader, Hoist, Straddle Wagon, Mechanic, Grader and Hydro Excavator.

GROUP 4: Air Tugger (single drum), Material Hoist Pump 6" or over, Elevators, Brokk Concrete Breaker.

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender

 ENGI0324-005 09/01/2022

AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALCONA, ALLEGAN, ALGER, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KWEENAW, LAKE, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment (Underground construction (including sewer))		
AREA 1:		
GROUP 1.....	\$ 39.38	24.85
GROUP 2.....	\$ 34.65	24.85
GROUP 3.....	\$ 33.92	24.85
GROUP 4.....	\$ 33.35	24.85
GROUP 5.....	\$ 24.90	12.05

AREA 2:

GROUP 1.....	\$ 37.67	24.85
GROUP 2.....	\$ 32.78	24.85
GROUP 3.....	\$ 32.28	24.85
GROUP 4.....	\$ 32.00	24.85
GROUP 5.....	\$ 24.90	12.05

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backfiller tamper; Backhoe; Batch plant operator (concrete); Clamshell; Concrete paver (2 drums or larger); Conveyor loader (Euclid type); Crane (crawler, truck type or pile driving); Dozer; Dragline; Elevating grader; Endloader; Gradall (and similar type machine); Grader; Mechanic; Power shovel; Roller (asphalt); Scraper (self-propelled or tractor drawn); Side boom tractor (type D-4 or equivalent and larger); Slip form paver; Slope paver; Trencher (over 8 ft. digging capacity); Well drilling rig; Concrete pump with boom operator; Hydro Excavator

GROUP 2: Boom truck (power swing type boom); Crusher; Hoist; Pump (1 or more - 6-in. discharge or larger - gas or diesel- powered or powered by generator of 300 amperes or more - inclusive of generator); Side boom tractor (smaller than type D-4 or equivalent); Tractor (pneu-tired, other than backhoe or front end loader); Trencher (8-ft. digging capacity and smaller); Vac Truck and End dump operator;

GROUP 3: Air compressors (600 cfm or larger); Air compressors (2 or more-less than 600 cfm); Boom truck (non-swinging, non- powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-1/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in. discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

GROUP 4: Boiler; Concrete saw (40 hp or over); Curing machine (self-propelled); Farm tractor (with attachment); Finishing machine (concrete); Hydraulic pipe pushing machine; Mulching equipment; Pumps (2 or more up to 4-in. discharge, if used 3 hours or more a day, gas or diesel powered - excluding submersible pumps); Roller (other than asphalt); Stump remover; Trencher (service); Vibrating compaction equipment, self-propelled (6 ft. wide or over); Sweeper

(Wayne type); Water wagon and Extend-a boom forklift

Group 5: Fire Person, Oiler

* ENGI0324-006 06/01/2023

GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW, WAYNE, ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
Power equipment operators: (AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION)		
GROUP 1.....	\$ 40.46	25.25
GROUP 2.....	\$ 37.73	25.25
GROUP 3.....	\$ 33.17	25.55
GROUP 4.....	\$ 33.00	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt plant operator; Crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel operator; Locomotive operator; Paver operator (5 bags or more); Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Slip form paver; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Endloader operator (1 yd. capacity and over); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300 amp. or larger); Shouldering or gravel distributing machine operator (self-propelled); Backhoe (with over 3/8 yd. bucket); Side boom tractor (type D-4 or equivalent or

larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt paver (self-propelled); Asphalt planer (self-propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan; Vacuum truck operator; Batch Plant (concrete dry batch); Concrete Saw Operator (40h.p. or over); Tractor Operator (farm type); Finishing Machine Operator (concrete); Grader Operator (self-propelled fine grade or form (concrete)).

GROUP 2: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Greese Truck; Air Compressor Operator (600 cu.ft. per min or more); Air Compressor Operator (two or more, less than 600 cfm);

GROUP 3: Boiler fire tender; Tractor operator (farm type with attachment); Concrete Breaker; Wagon Drill Operator;

GROUP 4: Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Boom or winch hoist truck operator; Endloader operator *under 1 yd. capacity); Roller Operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self-propelled); End dump; Skid Steer.

 ENGI0324-007 05/01/2023

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
Compressor, welder and forklift.....	\$ 38.50	25.00
Crane operator, main boom & jib 120' or longer.....	\$ 44.97	25.00
Crane operator, main boom & jib 140' or longer.....	\$ 44.17	24.60

Crane operator, main boom & jib 220' or longer.....	\$ 45.27	25.00
Mechanic with truck and tools.....	\$ 44.10	25.00
Oiler and fireman.....	\$ 39.96	25.00
Regular operator.....	\$ 42.32	25.00

ENGI0324-008 10/01/2022

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY,
BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND
TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,
MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA,
MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE,
MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA,
OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST.
CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA,
VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment (Sewer Relining)		
GROUP 1.....	\$ 35.37	14.77
GROUP 2.....	\$ 33.33	14.77

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system,
including remote in-ground cutter and other equipment used
in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation
systems, water jettors and vacuum and mechanical debris
removal systems

ENGI0325-012 05/01/2023

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1.....	\$ 36.18	25.25
GROUP 2.....	\$ 33.45	25.25

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as "distribution work," starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service). Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

 IRON0008-007 06/01/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector.....	\$ 23.70	6.95
IRONWORKER		
General contracts		
\$10,000,000 or greater.....	\$ 38.14	28.70
General contracts less than \$10,000,000.....	\$ 38.14	28.70

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

 * IRON0025-002 06/01/2023

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON,
 CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO,
 ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOMB, MIDLAND,
 MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE,
 ROSCOMMON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, TUSCOLA,
 WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:..\$	24.59	25.43
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw (east of U.S. 23) & Wayne...\$	25.81	26.43
IRONWORKER		
Ornamental and Structural...\$	34.50	38.44
Reinforcing.....\$	32.68	35.15

IRON0055-005 07/01/2022

LENAWEE AND MONROE COUNTIES:

	Rates	Fringes
IRONWORKER		
Pre-engineered metal buildings.....\$	23.59	19.35
All other work.....\$	33.00	27.20

IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector).....	\$ 31.75	22.84

LABO0005-006 10/01/2022

	Rates	Fringes
Laborers - hazardous waste abatement: (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE AND WEXFORD COUNTIES - Zone 10)		
Levels A, B or C.....	\$ 17.45	12.75
class b.....	\$ 18.64	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 16.45	12.75
class a.....	\$ 17.64	12.90
Zone 10		
Laborers - hazardous waste abatement: (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - Zone 11)		
Levels A, B or C.....	\$ 25.18	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 22.58	12.90
Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland);		

KALAMAZOO, KENT, LAKE,
 MANISTEE, MASON, MECOSTA,
 MONTCALM, MUSKEGON, NEWAYGO,
 OCEANA, OSCEOLA, OTTAWA, ST.
 JOSEPH AND VAN BUREN COUNTIES
 - Zone 9)

Levels A, B or C.....	\$ 21.88	13.26
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 20.80	12.90

Laborers - hazardous waste
 abatement: (ARENAC, BAY,
 CLARE, GLADWIN, GRATIOT,
 HURON, ISABELLA, MIDLAND,
 OGEMAW, ROSCOMMON, SAGINAW
 AND TUSCOLA COUNTIES - Zone 8)

Levels A, B or C.....	\$ 23.74	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 20.80	12.90

Laborers - hazardous waste
 abatement: (CLINTON, EATON
 AND INGHAM COUNTIES; IONIA
 COUNTY (City of Portland);
 LIVINGSTON COUNTY (west of
 Oak Grove Rd., including the
 City of Howell) - Zone 6)

Levels A, B or C.....	\$ 26.33	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.64	12.90

Laborers - hazardous waste
 abatement: (GENESEE, LAPEER
 AND SHIAWASSEE COUNTIES -
 Zone 7)

Levels A, B or C.....	\$ 24.20	13.80
Work performed in conjunction with site preparation not requiring		

the use of personal protective equipment; Also, Level D.....\$ 23.20	13.80
Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEЕ COUNTIES - Zone 4)	
Levels A, B or C.....\$ 27.13	14.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 24.17	12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)	
Levels A, B or C.....\$ 29.93	14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 28.93	14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)	
Levels A, B or C.....\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 28.93	16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)	
Levels A, B or C.....\$ 31.75	14.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 31.75	14.90
Laborers - hazardous waste	

abatement: (OAKLAND COUNTY
 and the Northeast portion of
 LIVINGSTON COUNTY bordered by
 Oak Grove Road on the West
 and M-59 on the South - Zone
 2)

Level A, B, C.....	\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	16.90

Laborers - hazardous waste
 abatement: (SANILAC AND ST.
 CLAIR COUNTIES - Zone 5)

Levels A, B or C.....	\$ 26.21	16.62
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.75	16.35

 LABO0259-001 09/01/2022

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES
 AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND
 TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
 IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
 KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,
 MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE,
 MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON,
 NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO,
 OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST.
 JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN,
 WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1.....	\$ 23.62	16.95
GROUP 2.....	\$ 23.73	19.95
GROUP 3.....	\$ 23.79	16.95

GROUP 4.....	\$ 23.97	16.95
GROUP 5.....	\$ 24.22	16.95
GROUP 6.....	\$ 24.55	16.95
GROUP 7.....	\$ 17.83	16.95
AREA 2		
GROUP 1.....	\$ 25.15	12.95
GROUP 2.....	\$ 25.24	12.95
GROUP 3.....	\$ 25.34	12.95
GROUP 4.....	\$ 25.50	12.95
GROUP 5.....	\$ 25.76	12.95
GROUP 6.....	\$ 26.07	12.95
GROUP 7.....	\$ 18.34	12.95

SCOPE OF WORK: Tunnel, shaft and caisson work of every type and description and all operations incidental thereto, including, but not limited to, shafts and tunnels for sewers, water, subways, transportation, diversion, sewerage, caverns, shelters, aquifers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

 LABO0334-001 09/01/2022

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1.....	\$ 23.47	16.72
GROUP 2.....	\$ 23.58	16.72
GROUP 3.....	\$ 23.63	16.72
GROUP 4.....	\$ 23.71	16.72
GROUP 5.....	\$ 24.17	16.72
GROUP 6.....	\$ 22.00	16.72
GROUP 7.....	\$ 17.84	16.72
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1.....	\$ 25.20	16.72
GROUP 2.....	\$ 24.91	16.72
GROUP 3.....	\$ 25.03	16.72
GROUP 4.....	\$ 25.10	16.72
GROUP 5.....	\$ 25.25	16.72
GROUP 6.....	\$ 22.55	16.72
GROUP 7.....	\$ 22.11	16.72
ZONE 3 - CLINTON, EATON, GENESEE, HILLSDALE AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); JACKSON, LAPEER AND LENAWEЕ COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1.....	\$ 23.39	16.72
GROUP 2.....	\$ 23.13	16.72
GROUP 3.....	\$ 23.25	16.72
GROUP 4.....	\$ 23.30	16.72
GROUP 5.....	\$ 23.44	16.72
GROUP 6.....	\$ 20.74	16.72
GROUP 7.....	\$ 22.23	16.72

ZONE 4 - ALCONA, ALLEGAN,
 ALPENA, ANTRIM, ARENAC,
 BARRY, BAY, BENZIE,
 BERRIEN, BRANCH,
 CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CLARE,
 CRAWFORD, EMMET,
 GLADWIN, GRAND TRAVERSE,
 GRATIOT AND HURON
 COUNTIES; IONIA COUNTY
 (EXCEPT THE CITY OF
 PORTLAND); IOSCO,
 ISABELLA, KALAMAZOO,
 KALKASKA, KENT,
 LAKE, LEELANAU, MANISTEE,
 MASON, MECOSTA, MIDLAND,
 MISSAUKEE, MONTCALM,
 MONTMORENCY, MUSKEGON,
 NEWAYGO, OCEANA, OGEMAW,
 OSCEOLA, OSCODA, OTSEGO,
 OTTAWA, PRESQUE ISLE,
 ROSCOMMON, SAGINAW, ST.
 JOSEPH, TUSCOLA, VAN BUREN
 AND WEXFORD COUNTIES:

GROUP 1.....	\$ 22.42	16.72
GROUP 2.....	\$ 22.15	16.72
GROUP 3.....	\$ 22.26	16.72
GROUP 4.....	\$ 22.33	16.72
GROUP 5.....	\$ 22.45	16.72
GROUP 6.....	\$ 19.67	16.72
GROUP 7.....	\$ 22.30	16.72

ZONE 5 - ALGER, BARAGA,
 CHIPPEWA, DELTA,
 DICKINSON, GOGEBIC,
 HOUGHTON, IRON,
 KEWEENAW, LUCE, MACKINAC,
 MARQUETTE, MENOMINEE,
 ONTONAGON AND SCHOOLCRAFT
 COUNTIES:

GROUP 1.....	\$ 22.24	16.72
GROUP 2.....	\$ 22.38	16.72
GROUP 3.....	\$ 22.51	16.72
GROUP 4.....	\$ 22.56	16.72
GROUP 5.....	\$ 22.64	16.72
GROUP 6.....	\$ 19.99	16.72
GROUP 7.....	\$ 22.45	16.72

SCOPE OF WORK:

Open cut construction work shall be construed to mean work which requires the excavation of earth including industrial, commercial and residential building site excavation and preparation, land balancing, demolition and removal of concrete and underground appurtenances, grading, paving, sewers, utilities and improvements; retention, oxidation, flocculation and irrigation facilities, and also including but not limited to underground piping, conduits, steel sheeting for underground construction, and all work incidental thereto, and general excavation. For all areas except the Upper Peninsula, open cut construction work shall also be construed to mean waterfront work, piers, docks, seawalls, breakwalls, marinas and all incidental work. Open cut construction work shall not include any structural modifications, alterations, additions and repairs to buildings, or highway work, including roads, streets, bridge construction and parking lots or steel erection work and excavation for the building itself and back filling inside of and within 5 ft. of the building and foundations, footings and piers for the building. Open cut construction work shall not include any work covered under Tunnel, Shaft and Caisson work.

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

GROUP 2: Mortar and material mixer, concrete form person, signal person, well point person, manhole, headwall and catch basin builder, headwall, seawall, breakwall and dock builder

GROUP 3: Air, gasoline and electric tool operator, vibrator operator, driller, pump person, tar kettle operator, bracer, rodder, reinforced steel or mesh person (e.g., wire mesh, steel mats, dowel bars, etc.), welder, pipe jacking and boring person, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger person and directional boring person

GROUP 4: Trench or excavating grade person

GROUP 5: Pipe layer (including crock, metal pipe, multi-plate or other conduits)

GROUP 6: Grouting man, audio-visual television operations and all other operations in connection with closed circuit

television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LABO0465-001 06/01/2023

LABORER: Highway, Bridge and Airport Construction

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA AND VAN BUREN COUNTIES

AREA 3: ALCONA, ALPENA, ANTRIM, ARENAC, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, IONIA, IOSCO, ISABELLA, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MONTMORENCY, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON AND WEXFORD COUNTIES

AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1.....	\$ 29.67	13.45
GROUP 2.....	\$ 29.88	13.45
GROUP 3.....	\$ 30.17	13.45
GROUP 4.....	\$ 30.61	13.45
GROUP 5.....	\$ 30.23	13.45
GROUP 6.....	\$ 30.66	13.45
LABORER (AREA 2)		
GROUP 1.....	\$ 26.92	12.90
GROUP 2.....	\$ 27.12	12.90
GROUP 3.....	\$ 27.36	12.90
GROUP 4.....	\$ 27.71	12.90
GROUP 5.....	\$ 27.58	12.90

GROUP 6.....	\$ 27.92	12.90
LABORER (AREA 3)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90
LABORER (AREA 4)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.); joint filling laborer; miscellaneous laborer; unskilled laborer; sprinkler laborer; form setting laborer; form stripper; pavement reinforcing; handling and placing (e.g., wire mesh, steel mats, dowel bars); mason's tender or bricklayer's tender on manholes; manhole builder; headwalls, etc.; waterproofing, (other than buildings) seal coating and slurry mix, shoring, underpinning; pressure grouting; bridge pin and hanger removal; material recycling laborer; horizontal paver laborer (brick, concrete, clay, stone and asphalt); ground stabilization and modification laborer; grouting; waterblasting; top person; railroad track and trestle laborer; carpenters' tender; guard rail builders' tender; earth retention barrier and wall and M.S.E. wall installer's tender; highway and median installer's tender (including sound, retaining, and crash barriers); fence erector's tender; asphalt raker tender; sign installer; remote control operated equipment.

GROUP 2: Mixer operator (less than 5 sacks); air or electric tool operator (jackhammer, etc.); spreader; boxperson (asphalt, stone, gravel); concrete paddler; power chain saw operator; paving batch truck dumper; tunnel mucker (highway work only); concrete saw (under 40 h.p.) and dry pack machine; roto-mill grounds person.

GROUP 3: Tunnel miner (highway work only); finishers tenders; guard rail builders; highway and median barrier installer; earth retention barrier and wall and M.S.E. wall

installer's (including sound, retaining and crash barriers); fence erector; bottom person; powder person; wagon drill and air track operator; diamond and core drills; grade checker; certified welders; curb and side rail setter's tender.

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

GROUP 6: Line-form setter for curb or pavement; asphalt screed checker/screw man on asphalt paving machines.

LABO1076-005 04/01/2023

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1.....	\$ 25.17	13.32
Zone 2.....	\$ 24.22	13.45
Zone 3.....	\$ 21.60	13.45
Zone 4.....	\$ 20.97	13.43
Zone 5.....	\$ 21.00	13.40

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: \$.40 per hour above the base pay rate.

- Zone 1 - Macomb, Oakland and Wayne
- Zone 2 - Monroe and Washtenaw
- Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair
- Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft
- Zone 5 - Remaining Counties in Michigan

PAIN0022-002 07/01/2008

HILLSDALE, JACKSON AND LENAWEE COUNTIES; LIVINGSTON COUNTY (east of the eastern city limits of Howell, not including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for spray work, also blowing off, \$0.80 per hour additional (applies only to workers doing rigging for spray work on off the floor work. Does not include setting up or moving rigging on floor surfaces, nor does it apply to workers engaged in covering up or tending spray equipment. For all sandblasting and spray work performed on highway bridges, overpasses, tanks or steel, \$0.80 per hour additional. For all brushing, cleaning and other preparatory work (other than spraying or steeplejack work) at scaffold heights of fifty (50) feet from the ground or higher, \$0.50 per hour additional. For all preparatorial work and painting performed on open steel under forty (40) feet when no scaffolding is involved, \$0.50 per hour additional. For all swing stage work-window jacks and window belts-exterior and interior, \$0.50 per hour additional. For all spray work and sandblaster work to a scaffold height of forty (40) feet above the floor level, \$0.80 per hour additional. For all preparatorial work and painting on all highway bridges or overpasses up to forty (40) feet in height, \$0.50 per hour additional. For all steeplejack work performed where the elevation is forty (40) feet or more, \$1.25 per hour additional.

PAIN0312-001 06/01/2018

EXCLUDES: ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); INCLUDES: Barry, Berrien, Branch, Calhoun, Cass, Hillsdale, Kalamazoo, St. Joseph, Van Buren

	Rates	Fringes
PAINTER		
Brush and roller.....	\$ 23.74	13.35

Spray, Sandblast, Sign
 Painting.....\$ 24.94 13.35

 PAIN0845-003 05/10/2018

CLINTON COUNTY; EATON COUNTY (does not include the townships of Bellevue and Olivet); INGHAM COUNTY; IONIA COUNTY (east of Hwy. M 66); LIVINGSTON COUNTY (west of the eastern city limits of Howell, including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); AND SHIAWASSEE COUNTY (Townships of Bennington, Laingsbury and Perry):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

 PAIN0845-015 05/10/2018

MUSKEGON COUNTY; NEWAYGO COUNTY (except the Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OCEANA COUNTY; OTTAWA COUNTY (except the townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

 PAIN0845-018 05/10/2018

ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); IONIA COUNTY (west of Hwy. M-66); KENT, MECOSTA AND MONTCALM COUNTIES; NEWAYGO COUNTY (Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OSCEOLA COUNTY (south of Hwy. #10); OTTAWA COUNTY (Townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.

 PAIN1011-003 06/02/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON,

IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON
AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 24.66	14.99

FOOTNOTES: High pay (bridges, overpasses, watertower): 30 to
80 ft.: \$.65 per hour additional. 80 ft. and over: \$1.30
per hour additional.

PAIN1474-002 06/01/2010

HURON COUNTY; LAPEER COUNTY (east of Hwy. M-53); ST. CLAIR,
SANILAC AND TUSCOLA COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 23.79	12.02

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.
Work with any hazardous material: \$1.00 per hour
additional. Sandblasting, steam cleaning and acid cleaning:
\$1.00 per hour additional. Ladder work at or above 40 ft.,
scaffold work at or above 40 ft., swing stage, boatswain
chair, window jacks and all work performed over a falling
height of 40 ft.: \$1.00 per hour additional. Spray gun
work, pick pullers and those handling needles, blowing off
by air pressure, and any person rigging (setting up and
moving off the ground): \$1.00 per hour additional.
Steeplejack, tanks, gas holders, stacks, flag poles, radio
towers and beacons, power line towers, bridges, etc.: \$1.00
per hour additional, paid from the ground up.

PAIN1803-003 06/01/2019

ALCONA, ALPENA, ANTRIM, ARENAC, BAY, BENZIE, CHARLEVOIX,
CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE,
GRATIOT, IOSCO, ISABELLA, KALKASKA, LAKE, LEELANAU, MANISTEE,
MASON, MIDLAND, MISSAUKEE, MONTMORENCY AND OGEMAW COUNTIES;
OSCEOLA COUNTY (north of Hwy. #10); OSCODA, OTSEGO, PRESQUE
ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES:

	Rates	Fringes
PAINTER		
Work performed on water, bridges over water or moving traffic, radio and		

powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants.....\$ 25.39 14.68
 All other work, including maintenance of industrial plant.....\$ 25.39 14.68

FOOTNOTES: Spray painting, sandblasting, blowdown associated with spraying and blasting, water blasting and work involving a swing stage, boatswain chair or spider: \$1.00 per hour additional. All work performed inside tanks, vessels, tank trailers, railroad cars, sewers, smoke stacks, boilers or other spaces having limited egress not including buildings, opentop tanks, pits, etc.: \$1.25 per hour additional.

PLAS0514-001 06/01/2018

ZONE 1: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES

ZONE 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
ZONE 1.....	\$ 31.47	13.81
ZONE 2.....	\$ 29.97	13.81

PLUM0190-003 05/01/2015

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY,
 BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND
 TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
 IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
 KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,
 MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA,
 MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE,
 MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA,
 OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST.
 CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA,
 VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
lumber/Pipefitter - gas distribution pipeline: Welding in conjunction with gas distribution pipeline work.....	\$ 33.03	20.19
All other work:.....	\$ 24.19	12.28

 TEAM0007-004 06/01/2020

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE,
 GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO,
 IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,
 LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE,
 MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE,
 MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW,
 ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE,
 ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST.
 CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW
 AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER AREA 1 Euclids, double bottoms and lowboys.....	\$ 28.05	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.80	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 27.90	.50 + a+b

AREA 2

Euclids, double bottomms and lowboys.....	\$ 24.895	.50 + a+b
Euclids, double bottoms and lowboys.....	\$ 28.15	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.90	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 28.00	.50 + a+b

Footnote:

- a. \$470.70 per week
- b. \$68.70 daily

TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1.....	\$ 21.78	11.83
GROUP 2.....	\$ 25.27	11.8375
AREA 2		
GROUP 1.....	\$ 22.03	11.83
GROUP 2.....	\$ 25.02	11.8375

FOOTNOTE:

- a. \$132.70 per week, plus \$17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools

required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1.....	\$ 23.82	19.04
GROUP 2.....	\$ 23.91	19.04
GROUP 3.....	\$ 24.12	19.04
AREA 2		
GROUP 1.....	\$ 24.12	19.04
GROUP 2.....	\$ 24.26	19.04
GROUP 3.....	\$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

 * SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person.....	\$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)....	\$ 22.89	13.45
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE).....	\$ 20.19	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 30.52	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 27.47	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 26.92	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 24.23	13.45

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted

striper, grinder, blaster, groover, or thermoplastic melter for the placement or removal of temporary or permanent pavement markings or markers.

PAVEMENT MARKER GROUP 2: Performs all functions involved for the placement or removal of temporary or permanent pavement markings or markers not covered by the classification of Pavement Marker Group 1 or Line Protector.

LINE PROTECTOR: Performs all operations for the protection or removal of temporary or permanent pavement markings or markers in a moving convoy operation not performed by the classification of Pavement Marker Group 1. A moving convoy operation is comprised of only Pavement Markers Group 1 and Line Protectors.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
=====

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"