MDOT
Michigan Department of Transportation

2020 Standard Specifications for Construction

Warranty	No	**FHWA Oversight**	No
DBE %	Yes	**NHS**	No

ITEM NUMBER
2503 036

STATE OF MICHIGAN DEPARTMENT OF TRANSPORTATION

PROPOSAL

0.45 mi of hot mix asphalt shared-use path and historic bridge rehabilitation and restoration including drainage, signing and pavement markings on Bailey Bridge at Smiths Crossing Road, Midland County. This is a Local Agency project.

BIDS WILL BE ELECTRONICALLY DOWNLOADED AT 10:30 AM LOCAL TIME, ON 3/7/25

CONTRACT ID	CONTROL SECTION		PROJECT	FEDERAL NUMBER
56000-212097-2	TAUL	56000	212097A	24A0506

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: 56000-212097-2 **Project(s):** 212097A

Letting Number: 250307 **Call Number:** 036

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$496,200.00	1.000 LSUM		
0010	2010001 - Clearing	1.300 Acre		
0015	2020006 - Stump, Rem, 19 inch to 36 inch	1.000 Ea		
0020	2020008 - Stump, Rem, 6 inch to 18 inch	17.000 Ea		
0025	2030001 - Culv, Rem, Less than 24 inch	2.000 Ea		
0030	2030002 - Culv, Rem, 24 inch to 48 inch	1.000 Ea		
0035	2040025 - Fence, Rem	93.000 Ft		
0040	2040035 - Guardrail, Rem	30.000 Ft		
0045	2040045 - Masonry and Conc Structure, Rem	5.000 Cyd		
0050	2040050 - Pavt, Rem	25.000 Syd		
0055	2050006 - Ditch Cleanout	1.000 Sta		
0060	2050031 - Non Haz Contaminated Material Handling and Disposal, LM	2,542.000 Cyd		
0065	2050041 - Subgrade Undercutting, Type II	250.000 Cyd		

Schedule of Items

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0070	2057002 - _Machine Grading, Modified	7.000 Sta		
0075	2080020 - Erosion Control, Inlet Protection, Fabric Drop	3.000 Ea		
0080	2080036 - Erosion Control, Silt Fence	500.000 Ft		
0085	3010002 - Subbase, CIP	714.000 Cyd		
0090	3020020 - Aggregate Base, 8 inch	3,006.000 Syd		
0095	3077002 - _Trenching, Modified	11.000 Sta		
0100	3077011 - _Approach, Cl I, 6 inch, Modified	289.000 Syd		
0105	3077011 - _Shld, Cl II, 4 inch, Modified	692.000 Syd		
0110	3077031 - _Approach, Cl II, Modified	22.000 Ton		
0115	4010012 - Culv End Sect, 12 inch	5.000 Ea		
0120	4010607 - Culv, Cl F, 12 inch	80.000 Ft		
0125	4017001 - _Culv, Cl A, Plastic, 48 inch	83.000 Ft		
0130	4020033 - Sewer, Cl A, 12 inch, Tr Det B	13.000 Ft		
0135	4020039 - Sewer, Cl A, 42 inch, Tr Det B	304.000 Ft		
0140	4021204 - Sewer Tap, 12 inch	2.000 Ea		
0145	4021275 - Video Taping Sewer and Culv Pipe	480.000 Ft		
0150	4027001 - _Sewer, PVC, 12 inch, Tr Det B	10.000 Ft		
0155	4027001 - _Sump Pump Lead and Drain Tile Connection	100.000 Ft		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0160	4037050 - _Dr Structure Cover, Type DG	3.000 Ea		
0165	4037050 - _Dr Structure, 48 inch dia, Modified	1.000 Ea		
0170	4037050 - _Dr Structure, 72 inch dia, Modified	1.000 Ea		
0175	4037050 - _Dr Structure, 96 inch dia, Modified	1.000 Ea		
0180	4040073 - Underdrain, Subgrade, 6 inch	100.000 Ft		
0185	4040093 - Underdrain Outlet, 6 inch	25.000 Ft		
0190	4040113 - Underdrain, Outlet Ending, 6 inch	2.000 Ea		
0195	5010005 - HMA Surface, Rem	2,223.000 Syd		
0200	5010061 - HMA Approach	62.000 Ton		
0205	5012024 - HMA, 4EL	368.000 Ton		
0210	5012036 - HMA, 5EL	514.000 Ton		
0215	8030044 - Sidewalk, Conc, 4 inch	50.000 Sft		
0220	8030046 - Sidewalk, Conc, 6 inch	320.000 Sft		
0225	8037010 - _Steps, Wood and Aggregate	250.000 Sft		
0230	8060030 - Shared use Path, Grading	1,969.000 Ft		
0235	8060040 - Shared use Path, HMA	537.000 Ton		
0240	8067011 - _Shared use Path, Aggregate, 6 inch	38.000 Syd		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0245	8067011 - _Shared use Path, Aggregate, 8 inch	2,572.000 Syd		
0250	8070095 - Post, Mailbox	8.000 Ea		
0255	8100145 - Delineator, Reflective Sheeting, 3 inch by 12 inch, White	38.000 Ea		
0260	8100360 - Post, Flexible, Delineator	19.000 Ea		
0265	8100371 - Post, Steel, 3 pound	151.000 Ft		
0270	8100403 - Sign, Type III, Rem	4.000 Ea		
0275	8100404 - Sign, Type IIIA	13.000 Sft		
0280	8100405 - Sign, Type IIIB	32.000 Sft		
0285	8100616 - Reflective Panel for Permanent Sign Support, 6 foot	1.000 Ea		
0290	8102010 - Ground Mtd Sign Support, Rem	3.000 Ea		
0295	8110231 - Pavt Mrkg, Waterborne, 4 inch, White	2,698.000 Ft		
0300	8110232 - Pavt Mrkg, Waterborne, 4 inch, Yellow	2,698.000 Ft		
0305	8110251 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White	2,698.000 Ft		
0310	8110252 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow	2,698.000 Ft		
0315	8120012 - Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	6.000 Ea		
0320	8120013 - Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	6.000 Ea		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0325	8120026 - Pedestrian Type II Barricade, Temp	2.000 Ea		
0330	8120140 - Lighted Arrow, Type C, Furn	2.000 Ea		
0335	8120141 - Lighted Arrow, Type C, Oper	2.000 Ea		
0340	8120170 - Minor Traf Devices	1.000 LSUM		
0345	8120246 - Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	216.000 Ft		
0350	8120252 - Plastic Drum, Fluorescent, Furn	70.000 Ea		
0355	8120253 - Plastic Drum, Fluorescent, Oper	70.000 Ea		
0360	8120264 - Pavt Mrkg, Wet Reflective, Type NR, Tape, 4 inch, Yellow, Temp	216.000 Ft		
0365	8120310 - Sign Cover	20.000 Ea		
0370	8120350 - Sign, Type B, Temp, Prismatic, Furn	409.000 Sft		
0375	8120351 - Sign, Type B, Temp, Prismatic, Oper	409.000 Sft		
0380	8120352 - Sign, Type B, Temp, Prismatic, Spec, Furn	16.000 Sft		
0385	8120353 - Sign, Type B, Temp, Prismatic, Spec, Oper	16.000 Sft		
0390	8120370 - Traf Regulator Control	1.000 LSUM		
0395	8130010 - Riprap, Plain	171.000 Syd		
0400	8150001 - Site Preparation, Max$3,100.00	1.000 LSUM		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0405	8150002 - Watering and Cultivating, First Season, Min$1,500.00	1.000 LSUM		
0410	8150003 - Watering and Cultivating, 2nd Season, Min$1,800.00	1.000 LSUM		
0415	8150529 - Betula nigra 'Heritage', clump form, 6 foot	6.000 Ea		
0420	8153406 - Schizachyrium scoparium 'The Blues', #1 cont.	59.000 Ea		
0425	8153644 - Sporobolus heterolepis, #1 cont.	67.000 Ea		
0430	8157050 - _Michigan Boulder, 36 inch or greater	6.000 Ea		
0435	8162000 - Turf Reinforcement Mat	500.000 Syd		
0440	8167010 - _Non Selective Weed Spray Under Asphalt	23,490.000 Sft		
0445	8167011 - _Slope Restoration, Modified	5,100.000 Syd		
0450	8167021 - _Bioretension Soil	119.000 Cyd		
0455	8210001 - Monument Box	1.000 Ea		
0460	8210010 - Monument Preservation	1.000 Ea		
0465	8220035 - Sinusoidal Corrugations, Non-Freeway, Milled, HMA Shld	846.000 Ft		
0470	8507050 - _Bench	1.000 Ea		
0475	8507050 - _Bollard System	2.000 Ea		

Section 1 Total:

Schedule of Items

Section Information

Section ID	Section Description	Section Total	Alt. Set ID	Alt. Member ID
2	Structure Work			

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0480	2050031 - Non Haz Contaminated Material Handling and Disposal, LM	2,848.000 Cyd		
0485	2060002 - Backfill, Structure, CIP	1,600.000 Cyd		
0490	2060010 - Excavation, Fdn	2,435.000 Cyd		
0495	2080014 - Erosion Control, Filter Bag	2.000 Ea		
0500	2080042 - Erosion Control, Turbidity Curtain, Deep	450.000 Ft		
0505	4040031 - Underdrain, Fdn, 4 inch	180.000 Ft		
0510	4040091 - Underdrain Outlet, 4 inch	60.000 Ft		
0515	4040111 - Underdrain, Outlet Ending, 4 inch	4.000 Ea		
0520	7040001 - Steel Sheet Piling, Permanent	2,540.000 Sft		
0525	7040002 - Steel Sheet Piling, Temp	2,355.000 Sft		
0530	7040009 - Cofferdams, Left in Place	1.000 LSUM		
0535	7050002 - Pile Driving Equipment, Furn	1.000 LSUM		
0540	7050034 - Pile, Steel, Furn and Driven, 14 inch	2,135.000 Ft		
0545	7050035 - Test Pile, Steel, 14 inch	2.000 Ea		
0550	7050039 - Pile Point, Steel	54.000 Ea		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0555	7050050 - Pile, Steel, Splice	20.000 Ea		
0560	7060060 - False Decking	4,575.000 Sft		
0565	7060092 - Reinforcement, Steel, Epoxy Coated	80,796.000 Lb		
0570	7060100 - Substructure Conc	534.000 Cyd		
0575	7060140 - Water Repellent Treatment, Penetrating	252.000 Syd		
0580	7062000 - Conc, Grade 3500, Subfooting	29.000 Cyd		
0585	7070012 - Bearing, Elastomeric, 1 inch	1,224.000 Sin		
0590	7070018 - Bearing, Elastomeric, 2 1/2 inch	1,520.000 Sin		
0595	7070050 - Structural Steel, Mixed, Erect	6,850.000 Lb		
0600	7070051 - Structural Steel, Mixed, Furn and Fab	6,850.000 Lb		
0605	7070070 - Structural Steel, Rolled Shape, Erect	71,000.000 Lb		
0610	7070071 - Structural Steel, Rolled Shape, Furn and Fab	71,000.000 Lb		
0615	7077030 - _Structural Steel, Furn and Fab, Special	26,500.000 Lb		
0620	7077050 - _Structural Steel, Truss Pin, 2 1/2 inch dia	36.000 Ea		
0625	7077051 - _Structural Steel, Restoration and Erect	1.000 LSUM		
0630	7100001 - Joint Waterproofing	186.000 Sft		

Schedule of Items Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0635	7117001 - _Railing, Pedestrian	732.000 Ft		
0640	7120034 - Adhesive Anchoring of Vertical Bar, 3/4 inch	104.000 Ea		
0645	7120038 - Adhesive Anchoring of Vertical Bar, 1 inch	32.000 Ea		
0650	7127051 - _Structures, Rehabilitation, Rem Portions, Special	1.000 LSUM		
0655	7150045 - Steel Structure, Cleaning, Type 4	1.000 LSUM		
0660	7150046 - Steel Structure, Coating, Type 4	1.000 LSUM		
0665	7160001 - Field Repr of Damaged Coating	1.000 LSUM		
0670	8137011 - _Riprap, Heavy, Modified	530.000 Syd		
0675	8507010 - _Wood Deck	4,767.000 Sft		
0680	8507051 - _Existing Truss, Transport and Install	1.000 LSUM		

Section 2 Total:

Total Bid:

Schedule Of Items - Blank Schedule of Items

Report v1

Proposal ID: 56000-212097-2 **Project(s):** 212097A

Letting Number: 250307 **Call Number:** 036

List items on this page by amendment

Contractor: _____

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
		Total Bid:		

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Notice of Advertisement

Letting of: 250307

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

Call Number	Contract ID	Control Section	Project Number	Federal Project Number
036	56000-212097-2	TAUL 56000	212097A	24A0506

Description: 0.45 mi of hot mix asphalt shared-use path and historic bridge rehabilitation and restoration including drainage, signing and pavement markings on Bailey Bridge at Smiths Crossing Road, Midland County. This is a Local Agency project.

Required DBE Participation: 4.00%

Net Classification Required For This Project: ** 5459 Fa **

Estimated Pages For Plans: 47

Completion Date: 9/30/2026

Date Advertised: 2/7/2025

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

The Engineer anticipates that construction can begin no earlier than:

- 10 days after award or as directed by the Engineer

In no case shall any work be commenced prior to receipt of formal notice of award by the Department.

The Contractor shall prepare and submit a complete, detailed, and signed Progress Schedule to the Engineer.

No in-water work in the Tittabawassee River is authorized from March 1 to June 30.

Tree removals and clearing must be completed between October 1 and April 14.

Construction of all **Bridge Work** must be complete by the interim completion date of **May 31, 2026**.

All contract work, except for **Slope Restoration, Modified** must be complete by the interim completion date of **August 31, 2026.**

Establishment of **Slope Restoration, Modified** must be complete by the final completion date of **September 30, 2026.**

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 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.

NOTICE OF AUTHORIZATION

Permit Number: WRP039633 v. 2 **Date Issued: November 30, 2023**
Site Name: 56 - Bailey Bridge at Smiths Crossing Road over Tittabawassee River
Revision Date: December 20, 2024 **Expiration Date: November 30, 2028**

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958, under provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; specifically:

- ☒ Part 31, Floodplain Regulatory Authority of Water Resources Protection.
- ☒ Part 301, Inland Lakes and Streams.
- ☒ Part 303, Wetlands Protection.
- ☐ Part 315, Dam Safety.
- ☐ Part 323, Shorelands Protection and Management.
- ☐ Part 325, Great Lakes Submerged Lands.
- ☐ Part 353, Sand Dunes Protection and Management.

Authorized activity:

Rehabilitate the existing historical 17.1-foot wide by 305.7-foot long by 24.12-foot tall two-span steel truss bridge. Cut off the existing 7.5-foot wide by 29.9-foot-long center pier at 591.00 feet in elevation. Drive sheet piling around the remainder of the existing pier and fill the area with concrete, up to 593.00 feet in elevation, then place a new pier on top. This will result in an approximately 9-foot wide by 31.4-foot-long pier base and 3.0-foot wide pier top. The existing steel truss structural members will be rehabilitated off site in an upland location and reinstalled for the proposed bridge. The proposed bridge will carry a 10-foot wide shared-use path crossing the Tittabawassee River as part of the Great Lakes Bay Regional Trail System. Remove and construct new abutments for the truss bridge structure. The abutment and pier work requires 633.3 cubic yards or cut and 487.4 cubic yards of fill below the ordinary high-water mark (OHWM).

Terminate Smiths Crossing Road on both the north and south ends of the bridge, and construct cul-de-sacs at each end. Impact 0.15-acres of forested wetland in Howe's Drain to construct the cul-de-sac on the south side of the bridge. The existing culvert crossing Smiths Crossing Road over Howe's Drain will be removed and replaced with an 83.5-foot long by 4-foot-wide culvert with mitered ends.

This notice must be displayed at the site of work.
Laminating this notice or utilizing sheet protectors is recommended.
Please refer to the above permit number with any questions or concerns.

EGLE

NOTICE OF AUTHORIZATION

Place 6917 cubic yards of fill in the 100-year floodplain to construct the cul-de-sacs. Excavate 4525 cubic yards below the floodplain elevation at Smiths Crossing Road in non-wetland areas. At the intersection Gordonville and River Road, excavate 2779 cubic yards below the floodplain elevation in non-wetland areas.

Place a total of 164 cubic yards of riprap around the pier and abutments below the OHWM. Place an additional 362 cubic yards of riprap within the 100-year floodplain.

To be conducted at property located in: Midland County, Waterbody: Tittabawassee River
Section 01, Town 13N, Range 02E, Ingersoll Township

Permittee:
Jonathan Myers
Midland County Road Commission
2334 North Meridian Road
Sanford, Michigan 48657

Issued by: Rachel Matejewski

Rachel Matejewski
Transportation Review Unit
Water Resources Division
517-331-2913

This notice must be displayed at the site of work.
Laminating this notice or utilizing sheet protectors is recommended.
Please refer to the above permit number with any questions or concerns.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT

Issued To:

Jonathan Myers
Midland County Road Commission
2334 North Meridian Road
Sanford, Michigan 48657

Permit No:	WRP039633 v.2
Submission No.:	HQ6-M4N7-0G6QX
Site Name:	56 - Bailey Bridge at Smiths Crossing Road over Tittabawassee River
Issued:	November 30, 2023
Revised:	December 20, 2024
Expires:	November 30, 2028

This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- ☒ Part 301, Inland Lakes and Streams
- ☒ Part 303, Wetlands Protection
- ☐ Part 315, Dam Safety
- ☐ Part 323, Shorelands Protection and Management
- ☐ Part 325, Great Lakes Submerged Lands
- ☐ Part 353, Sand Dunes Protection and Management
- ☒ Part 31, Water Resources Protection (Floodplain Regulatory Authority)

EGLE certifies that the activities authorized under this permit are in compliance with the State Coastal Zone Management Program and certifies without conditions under the Federal Clean Water Act, Section 401 that the discharge from the activities authorized under this permit will comply with Michigan's water quality requirements in Part 31, Water Resources Protection, of the NREPA and associated administrative rules, where applicable.

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

Rehabilitate the existing historical 17.1-foot wide by 305.7-foot long by 24.12-foot tall two-span steel truss bridge. Cut off the existing 7.5-foot wide by 29.9-foot-long center pier at 591.00 feet in elevation. Drive sheet piling around the remainder of the existing pier and fill the area with concrete, up to 593.00 feet in elevation, then place a new pier on top. This will result in an approximately 9-foot wide by 31.4-foot-long pier base and 3.0-foot wide pier top. The existing steel truss structural members will be rehabilitated off site in an upland location and reinstalled for the proposed bridge. The proposed bridge will carry a 10-foot wide shared-use path crossing the Tittabawassee River as part of the Great Lakes Bay Regional Trail System. Remove and construct new abutments for the truss bridge structure. The abutment and pier

work requires 633.3 cubic yards or cut and 487.4 cubic yards of fill below the ordinary high-water mark (OHWM).

Terminate Smiths Crossing Road on both the north and south ends of the bridge, and construct cul-de-sacs at each end. Impact 0.15-acres of forested wetland in Howe's Drain to construct the cul-de-sac on the south side of the bridge. The existing culvert crossing Smiths Crossing Road over Howe's Drain will be removed and replaced with an 83.5-foot long by 4-foot-wide culvert with mitered ends.

Place 6917 cubic yards of fill in the 100-year floodplain to construct the cul-de-sacs. Excavate 4525 cubic yards below the floodplain elevation at Smiths Crossing Road in non-wetland areas. At the intersection Gordonville and River Road, excavate 2779 cubic yards below the floodplain elevation in non-wetland areas.

Place a total of 164 cubic yards of riprap around the pier and abutments below the OHWM. Place an additional 362 cubic yards of riprap within the 100-year floodplain.

Waterbody Affected: Tittabawassee River
Property Location: Midland County, Ingersoll Township, T13N, R02E, Sections 01/02 060-001-002-570, 060-001-200-200-600-00, 060-001-200-610-00, 120-035-300-250-00, 060-002-100-200-00.

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. Permittee will notify EGLE within one week after the completion of the activity authorized by this permit.

J. This permit shall not be assigned or transferred without the written approval of EGLE.
K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative with a written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to implementation.
Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.
S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for

construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.

V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property are subject to civil damage litigation.

W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.

X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources (MDNR), Fisheries Division.

Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

Z. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Authority granted by this permit does not waive compliance requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA. Any discharge of sediment into waters of the state and/or off the road right-of-way is a violation of this permit, Part 91, and Part 31, Water Resources Protection, of the NREPA. A violation of these parts subjects the permittee to potential fines and penalties. To locate the Soil Erosion Program Administrator for your county, visit https://www.michigan.gov/egle/about/organization/water-resources/soil-erosion/sesc-overview and select “Soil Erosion and Sedimentation Control Agencies”.
2. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
3. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
4. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
5. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
6. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
7. Prior to the commencement of any earth changing activities, all adjacent non-work wetland areas shall be protected by a properly trenched silt fence to prevent sediment from entering the wetland. Orange construction fencing may be installed as needed to prohibit construction personnel from entering or performing work in non-authorized areas. The silt fence shall be maintained daily for the duration of the project until permanent stabilization and re-vegetation of all disturbed areas has occurred. Upon project completion, the accumulated materials shall be removed and disposed of temporarily at an upland site. The sedimentation barrier shall be removed after the disturbed areas are re-vegetated.

8. Temporary soil erosion and sedimentation control measures shall be installed prior to earth changing activities and shall be maintained daily. Temporary soil erosion and sedimentation control measures shall be maintained until permanent soil erosion and sedimentation control measures are in place and the area is stabilized. Permanent soil erosion and sedimentation control measures for all slopes, channels, ditches, or any disturbed area shall be installed within five (5) calendar days after final grading, or the final earth change has been completed.
9. Prior to the removal of the existing structures located in the water; cofferdams of interlocking steel sheet piling, or other acceptable barriers approved in advance by the engineer shall be installed to isolate all construction activities from the stream or wetland. The cofferdam shall be maintained in good working order throughout the duration of the project. Any accumulated sediment shall be removed and disposed of at an upland location. Normal water flow shall be reestablished if work is stopped for any length of time other than what may be encountered in a normal work week.
10. The crest of the barrier shall be placed at an elevation that will not cause upstream flooding in the event of high flow conditions. It shall be less than two feet above the OHWM, or for barriers that require an elevation greater than two feet above the OHWM, the maximum barrier width must be less than 1/3 of the stream width.
11. All cofferdam and temporary steel sheet pile that blocks no more than 1/3 of the stream flow shall then be removed in its entirety immediately after use has been discontinued or within 90 days of initiation of the authorized activity, whichever is shorter. If the temporary structure is blocking more than 1/3 of the stream flow it must be removed immediately after use has been discontinued or within 14 days of initial installation, whichever is shorter.
12. For cofferdams that block more than 1/3 of the water flow, a pump system is required to pump water around the construction activity. Water shall be discharged into the watercourse with appropriate treatments to remove suspended particles and to dissipate energy. An extra pump shall be kept on site in the event of failure.
13. All cofferdam and temporary steel sheet pile shall be removed immediately, and flow returned to normal after use has been discontinued. Any barrier shall be removed in its entirety, unless specifically shown to be left in place on the plans. Cofferdam and sheet pile that are to remain shall be cut off at the elevation shown on the plan. Cofferdam and sheet pile left above the stream bottom must be approved by the EGLE. Areas where the sheet piling is cut off shall be covered with riprap as shown in the plans or backfilled with other acceptable material approved in advance by the engineer and EGLE. Projects where the cofferdam is cut off less than one foot below the stream bottom must be submitted for individual review before any revision to current permit conditions will be allowed.
14. Continuous in-stream monitoring (or a sampling frequency of no more than 30 minutes) for suspended solids (turbidity) shall be in place to verify the performance of the sediment controls. Turbidity monitoring protocols shall be in effect for the duration of all wetland activities. If turbidity exceeds 1.5 times the background concentration (as monitored using an upstream turbidimeter for background levels), construction activity shall be stopped to evaluate and adjust sediment controls as necessary to prevent discharges from construction activity, additional mitigation measures may be necessary. A weekly turbidity report shall be submitted to EGLE while construction is occurring.

15. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.
16. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season shall be temporarily stabilized with mulch blankets in accordance with the following dates: September 20th for the Upper Peninsula, October 1st for the Lower Peninsula north of US-10, and October 10th for the Lower Peninsula south of US-10.
17. All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed on upland (i.e., non-wetland, non-floodplain, and non-bottomland), prepared for stabilization, and stabilized with sod and/or seed and mulch in such a manner to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain. Once stabilized, it will be transported to a licensed landfill to be properly treated and disposed. If contaminated soil is encountered, it must be properly handled to prevent further contamination and EGLE shall be notified.
18. Authority granted by this permit does not waive compliance requirements for containment of water a treatment under the National Pollutant Discharge Elimination System (NPDES). Any discharge of contaminated water from excavated or dredge spoils will be in violation of these requirements subjects the permittee to potential fines and penalties.
19. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland.
20. During removal or repair of the existing structures, every precaution shall be taken to prevent debris from entering any watercourse. Any debris reaching the watercourse during the removal and/or reconstruction of the structure shall be immediately retrieved from the water. All material shall be disposed of in an acceptable manner consistent with local, state, and federal regulations.
21. The bridge shall be installed to align with the center line of the existing watercourse at both the inlet and outlet ends.
22. The work intersects with Dow Chemical Sediment Management Area (SMA) 2-4. Activities, including but not limited to pier installation, dredging, or barge traffic, shall not affect the integrity of the cap placed in associated with SMA 2-4. This permit does not authorize impacts or changes to the cap. If the cap is disturbed, EGLE shall be notified.
23. Road fill side slopes shall not be steeper than 1-on-2 (1 vertical to 2 horizontal) except where headwalls of reinforced concrete, mortar masonry, dry masonry, or other acceptable methods are used.
24. Road fill side slopes terminating in the watercourses and any raw banks resulting from the construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high-water mark, before or upon commencement of the permitted activity. Temporary stabilization measures shall be maintained until permanent measures are in place.

25. All other road fill slopes, ditches, and other raw areas draining directly to the watercourse may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection.
26. The placement of riprap shall be limited to the minimum amount necessary to ensure proper protection in the immediate vicinity of the structure. Areas to be protected by riprap shall be cleared of brush and debris, and all grades shall be shaped and compacted to the required cross section. Riprap for scour protection shall be buried below the bed such that it shall not obstruct water flow or narrow the channel. Geotextile liner shall be placed on the prepared grades prior to placing riprap and shall not be damaged by riprap placement.
27. If the project, or any portion of the project, is stopped and lies incomplete for any length of time (other than that encountered in a normal work week) every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seeding and mulching, or other acceptable temporary protection.
28. No work shall be performed in the stream during periods of above-normal flows except as necessary to prevent erosion.
29. Prior to instream work being completed below the ordinary high-water mark, mussels within the vicinity shall be collected and relocated to areas of adequate depth. The area of relocation must be reviewed and approved by April Simmons (SimmonsA14@Michigan.gov) prior to mussel relocation and instream work.
30. No in-water work in the Tittabawassee River is authorized from March 1 to June 30 due to critical fish spawning and migration.

Issued by: Rachel Matejewski

Rachel Matejewski
Transportation Review Unit
Water Resources Division
517-331-2913

Midland County Drain Commission

220 West Ellsworth Street **PHONE (989) 832-6770**

MIDLAND, MICHIGAN 48640-5194 **FAX (989) 832-6841**

Website: https://www.co.midland.mi.us/DrainCommissioner.aspx

Joseph J. Sova

Drain Commissioner

Drain Right-of-Way Access Permit

Date: 2-18-23

Name of Applicant: Midland County Road Commission

Address: 2334 North Meridian Road

City: Sanford State MI Zip 48657

Phone: (Home) 989-687-9060 (Work)

Name of Drain: Howes

Township: Ingersoll Section: 2

PropertyCode: 060-001-200-610-00

Location: Howes Drain next to Smiths Crossing Rd & the Tittabawassee Rive

Name of Contractor:

Address:

City/State: Zip Phone:

Proposed Work:

- ☐ Cleanout Ditch Bottom
- ☐ Deepen and Widen Ditch
- ☐ Enclose Drain
- ☑ Relocate Drain
- ☐ Install Culvert
- ☐ Other

Description of Proposed Work:

Relocate 120-feet of drain for proposed cul-de-sac and shared use path.

Approval of this Application is not to imply that other applicable permits are waived or not required, such as a Soil Erosion and Sedimentation Control permit or from utility companies, the EGLE, the Midland County Road Commission, Michigan Department of Transportation, etc.

Notification of commencement and completion of the proposed work will be required by this office and a final inspection scheduled with a representative of this office.

All standard drain specifications and requirements shall be complied with. All state, federal and local laws shall also be complied with. The applicant shall also be responsible for restoration and cleanup to the Drain Commissioner's satisfaction.

In the event of continued non-compliance with the applicable specifications, requirements, and laws, including any lack of final cleanup and/or restoration, the Drain Commissioner will contract for the necessary construction and a lien shall be placed against the applicant's property in the amount of cost of this remedial construction.

The applicant shall save and hold harmless the Drain Commissioner, his agents, and the Drainage District from any and all liability resulting from the proposed work as requested herein in writing. The applicant shall also supply the Drain Commissioner with proof of liability insurance from the contractor.

It shall be the applicants responsibility to contact the Utility Companies by calling "Miss Dig" at least 72 hours prior to commencing work. CALL 1-800-482-7171.

All costs and fees involved in the proposed work shall be the responsibility of the applicant.

I do hereby make application for a permit to work within the right-of-way of the Howes County Drain at the above described location, for a period commencing June 19, 2023 and ending November 17 2024.

I acknowledge that I have read the stipulations and requirements stated above and agreed to their implementation.

DATE:_____ _____

Applicant's Signature

I hereby certify that I am acting as authorized agent on behalf of the above named applicant.

DATE:_____ _____

Authorized Agent's Signature

1. All soft sediment is to be removed from the ditch bottom prior to pipe placement. The pipe should be set on solid ground or upon stone.

2. All material used with culvert must be approved by this office.

3. No "Boiler Tubes" or tanks with the ends removed will be acceptable material for use as culverts.

4. Fill material should be firmly compacted in layers.

5. End slopes shall be constructed in such a manner as to prevent erosion. This may be done by building headwalls or by making seeded end slops no steeper than 1 ½ horizontal to 1 vertical.

Location Map - Write in adjacent road names and draw a sketch of the property line, drain, proposed work, etc.

SECTION: 2

TOWNSHIP: Ingersoll

NAME OF DRAIN INVOLVED: Howes

PROPERTY CODE: 060-001-200-610-00

SUBMIT

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

CON:SGI 1 of 5 12-20-24

a. Description. This special provision consists of requirements and restrictions to maintain traffic on Smiths Crossing Road in Ingersoll 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 Smiths Crossing Road from approximately River Road to Saginaw 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.

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. 101-GEN-SPACING-CHARTS

   B. 102-GEN-NOTES

   C. 103-GEN-SIGN

   D. 110-TR-NFW-2L

   E. 122-NFW-SHL-(R)

   F. WZD-100-A

   G. WZD-125-E

2. Do not work, deliver material, or close lanes during the holiday periods as defined in Table 1.

Table 1: 2025-26 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 p.m. Friday, May 23, 2025	6:00 a.m. Tuesday, May 27, 2025
Independence Day	3:00 p.m. Thursday, July 3, 2025	6:00 a.m. Monday July 7, 2025
Labor Day	3:00 p.m. Friday, August 29, 2025	6:00 a.m. Tuesday, September 2, 2025
Thanksgiving	3:00 p.m. Wednesday, November 26, 2025	6:00 a.m. Monday, December 1, 2025
Christmas	3:00 p.m. Tuesday, December 23, 2025	6:00 a.m. Friday, December 26, 2025
New Years	3:00 p.m. Tuesday, December 30, 2025	6:00 a.m. Friday, January 2, 2025
Memorial Day	3:00 p.m. Friday, May 22, 2026	6:00 a.m. Tuesday, May 26, 2026
Independence Day	3:00 p.m. Thursday, July 2, 2026	6:00 a.m. Monday July 6, 2026

3. Maintain a minimum of one lane of traffic at all times on Smiths Crossing Road. (And all intersecting roads and ramps, except where detoured.)

4. 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.

5. Maintain access to all driveways as directed by the Engineer unless prior agreements are made with the respective property owners.

e. Traffic General.

1. For any lane open to traffic, provide a minimum lane width of 11 feet with 2 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. Place lane closures and traffic regulation operations only in areas as show on the plans unless otherwise directed by the Engineer.

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

4. A speed reduction will not be used.

5. Develop and submit to the Engineer an Internal Traffic Control Plan (ITCP) per subsection 104.11.B of the Standard Specifications for Construction. The requirements listed herein are the requirements for a Type A ITCP. Submit the Type A ITCP at the preconstruction meeting. The Engineer will have 7 calendar days to review the ITCP for approval or provide comments for revisions required to obtain approval. Include in the ITCP, at a minimum, the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the ITCP. Ensure that the ITCP minimizes conflicts between construction vehicles and motorists and maintains overall safety and mobility within the work zone. No work may begin prior to approval of the ITCP. Additional

time required to obtain an approved ITCP will not be cause for delay or impact claims. All costs associated with obtaining an approved ITCP, providing and executing all parts of the approved ITCP including required traffic control devices, or resolving an incomplete or unacceptable ITCP will be borne by the Contractor.

6. Upon approval of the ITCP, complete and submit the "Lane Closure Notification/Request Form or approved equal" to the Engineer for approval prior to the actual closure date. Submit the lane closure request 7 calendar days in advance of the lane closure for approval. This includes all shifts/shoulder/lane/ramp closures as stated per the proposal or any new lane closure requests submitted by the Contractor. The Engineer will have 4 calendar days to review the lane closure request for approval or provide comments for revisions required to obtain approval. Do not implement a lane closure prior to approval by the Engineer. In addition, notify the Engineer when the lane closure is removed or cancelled. See Lane Closure Notification/Request Form contained in the proposal.

7. 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.

8. 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".

9. Remove all temporary traffic control devices from 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.

10. 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.

11. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days will require the removal of lane closures at no expense to the Department.

f. Traffic Regulator Control.

1. Maintain two-way traffic at all times on Smiths Crossing Road using traffic regulator control. 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. 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.

3. Follow the Michigan Traffic Regulator's Instruction Manual for operations at signalized intersections. Contact the MDOT region electrician or applicable maintaining agency prior to

work on traffic signals. Only the MDOT region electrician or applicable maintaining agency may make changes to the traffic signal controllers.

g. 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.

h. Unique Traffic Control Requirements.

1. Smiths Crossing Road will be closed to through traffic. Local traffic only will be allowed to access the properties.

2. The “Boom Deployment Gated Access” driveway shall be open to traffic at all times. The existing driveway shall be maintained while the proposed driveway is constructed. Once the proposed driveway is constructed, the existing driveway may be removed.

i. 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.

j. 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. Complete temporary pavement markings in each stage prior to shifting traffic as directed by the Engineer.

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

6. Delineate the edge line as show on the plans.

k. 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.

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

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

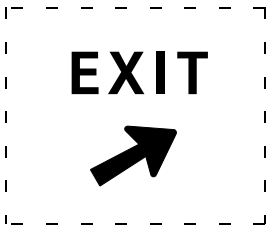
TYPES OF TAPERS	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L - MINIMUM
SHIFTING TAPER	1/2 L - MINIMUM
SHOULDER TAPER	1/3 L - MINIMUM
2 TO 1 LANE ROAD TAPER	100' - MAXIMUM
DOWNSTREAM TAPERS	
(USE IS RECOMMENDED)	100' (PER LANE)

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

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.

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 RECCOMENDED 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 CHANELIZING 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.

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS NOTE SHEET	DATE: MAY 2022
		NO: 102-GEN-NOTES		SHEET: 1 OF 2
FILE: 102-GEN-NOTES.dgn				

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 PROCEEED 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.

SIGN NUMBER KEY

E5-1f
48" x 48"
60" x 48"

E5-2
48" x 36"

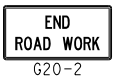
E5-2a
48" x 36"

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"

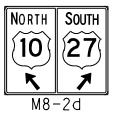
SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	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

M8-1gL
36" x 66"

M8-1gR
36" x 66"

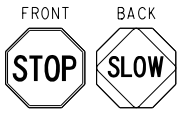


M8-2d
60" x 48"


OM-3L
12" x 36"
24" x 48"
36" x 72"


OM-3R
12" x 36"
24" x 48"
36" x 72"

R1-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



R1-1a
18" x 18"
24" x 24"

R1-2
18"
24"
30"
36"
48"
60"

R1-2aP
24" x 18"
36" x 30"
48" x 36"

R2-1
18" x 24"
24" x 30"
30" x 36"
36" x 48"
48" x 60"

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"

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"

R3-5L
30" x 36"
36" x 48"

R3-5R
30" x 36"
36" x 48"

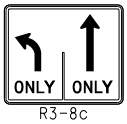
R3-5a
30" x 36"
36" x 48"


R3-6L
30" x 36"
42" x 48"

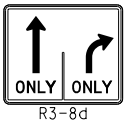

R3-6R
30" x 36"
42" x 48"

R3-7L
30" x 30"
36" x 36"

R3-7R
30" x 30"
36" x 36"



R3-8c
36" x 30"



R3-8d
36" x 30"

R4-1
12" x 18"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

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"

R4-9
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R5-1
30" x 30"
36" x 36"
48" x 48"

R5-1a
30" x 18"
36" x 24"
42" x 30"

R5-18b
48" x 60"

R5-18c
48" x 48"

R5-18d
78" x 12"

R5-18e
72" x 12"

R5-18f
48" x 60"

R5-18g
30" x 42"

R5-18h
48" x 60"

R6-1L
36" x 12"
54" x 18"

R6-1R
36" x 12"
54" x 18"

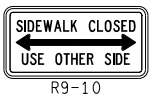
R6-2L
12" x 16"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R6-2R
12" x 16"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

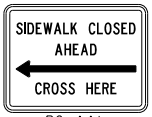

R8-3
12" x 12"
18" x 18"
24" x 24"
36" x 36"
48" x 48"

R9-8
36" x 18"

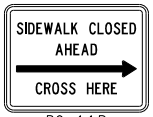
R9-9
24" x 12"
30" x 18"



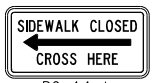
R9-10
24" x 12"
48" x 24"



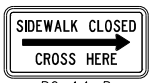
R9-11L
24" x 12"
48" x 36"



R9-11R
24" x 12"
48" x 36"



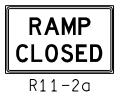
R9-11aL
24" x 12"
48" x 24"



R9-11aR
24" x 12"
48" x 24"

R10-6b
36" x 54"

R11-2
48" x 30"



R11-2a
48" x 30"

R11-2b
48" x 30"

R11-2c
60" x 30"

R11-3a
60" x 30"

R11-3b
60" x 30"

R11-4
60" x 30"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS SIGN SHEET	DATE: JUNE 2021
FILE: 103-GEN-SIGN.dgn		NO: 103-GEN-SIGN		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"


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

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"

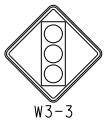

W1-6R
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"


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"

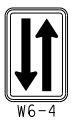
W5-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"

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

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL NO: 103-GEN-SIGN	TRAFFIC TYPICALS 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"

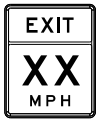
W11-10a
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W11-24
36" x 36"
48" x 48"

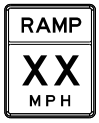
W12-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W12-2
18" x 18"
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"

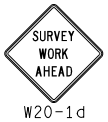
W16-13P
24" x 18"
30" x 24"

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

MDOT Michigan Department of Transportation	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"

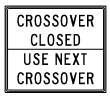
W20-5aL3
30" x 30"
36" x 36"
48" x 48"

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"

W20-14aP
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

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL NO: 103-GEN-SIGN	TRAFFIC TYPICALS SIGN SHEET	DATE: JUNE 2021 SHEET: 5 OF 5
FILE: 103-GEN-SIGN.dgn				

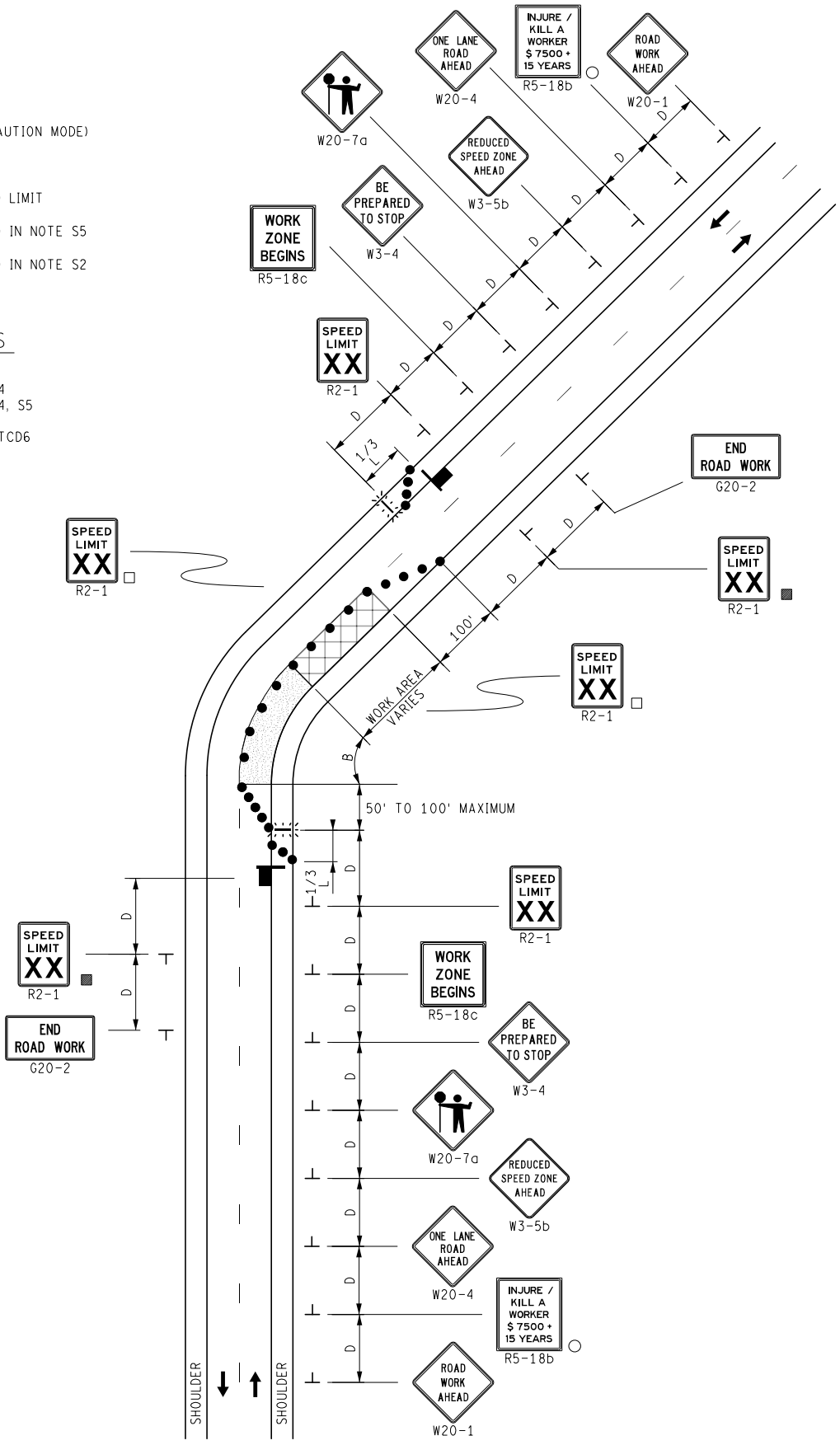
KEY

- 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

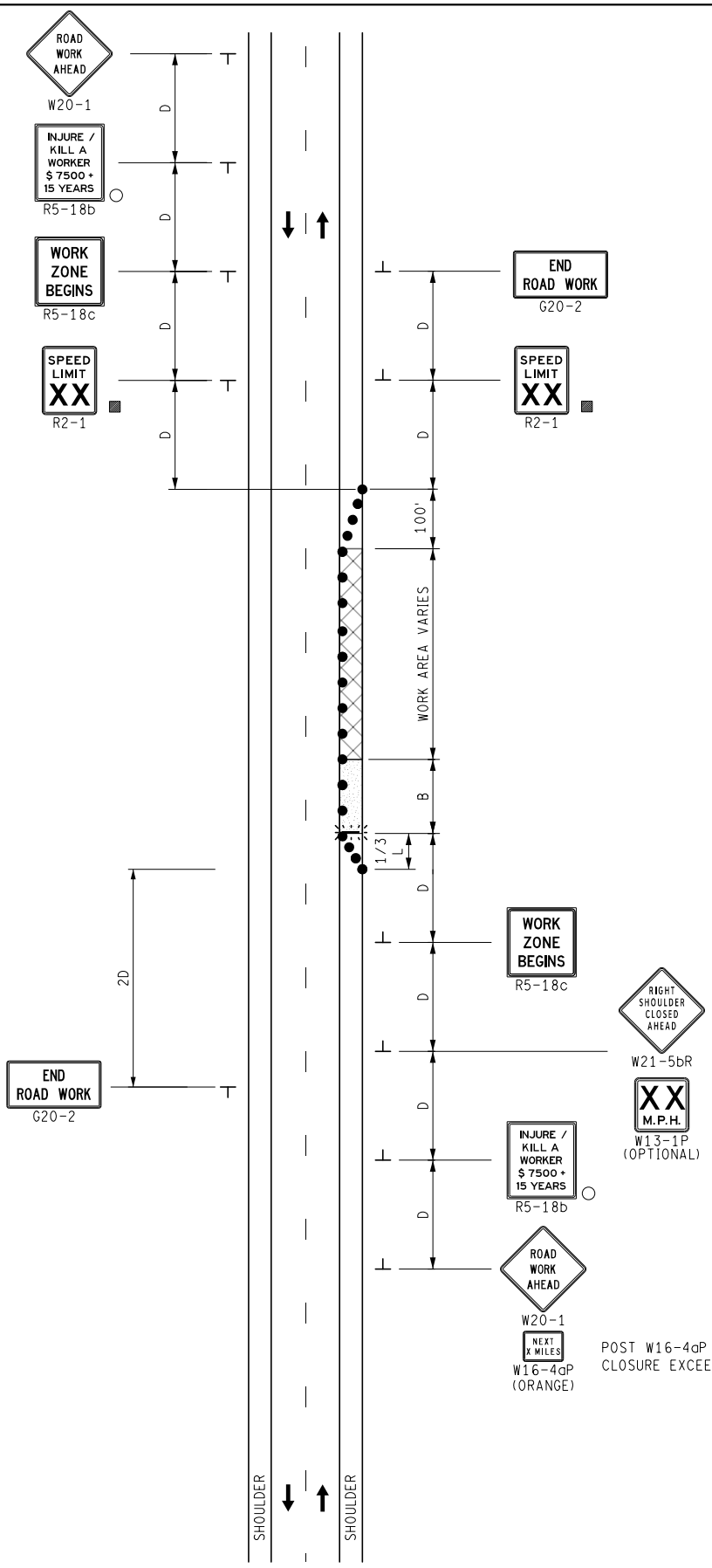
STANDARD NOTES

(SEE GEN-NOTES)

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



MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL NO: 110-TR-NFW-2L	LANE CLOSURE UTILIZING TRAFFIC REGULATORS ON A 2-LANE UNDIVIDED ROADWAY	DATE: MAY 2021 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

POST W16-4aP WHEN SHOULDER CLOSURE EXCEEDS 1 MILE IN LENGTH

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	SHOULDER CLOSURE ON A 2-LANE, UNDIVIDED ROADWAY	DATE: MAY 2021
		NO: 122-NFW-SHL-(R)		SHEET: 1 OF 1
FILE: 122-NFW-SHL-(R).dgn				

SIGN MATERIAL SELECTION TABLE

	SIGN MATERIAL TYPE		
SIGN SIZE	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.
HORIZONTIAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

POST SIZE REQUIREMENTS TABLE

	POST TYPE		
SIGN AREA (ft^2)	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.

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: CON/ECH

CHECKED BY: AUG

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

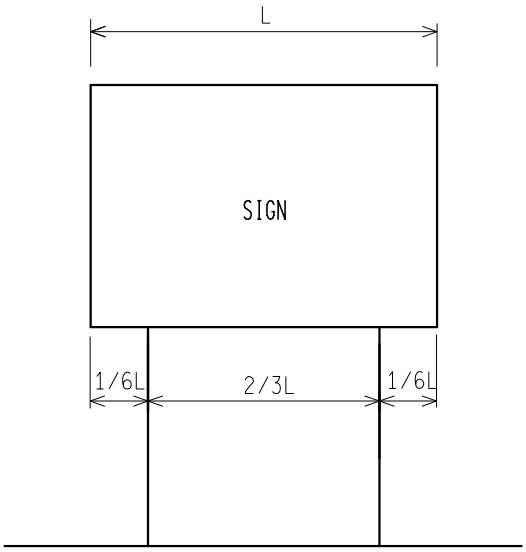
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

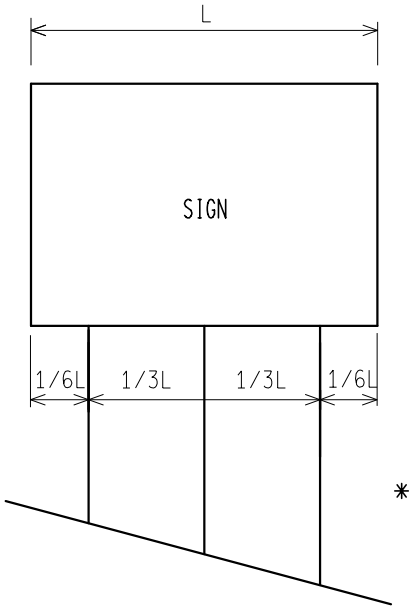
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS

F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 1 OF 11

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING

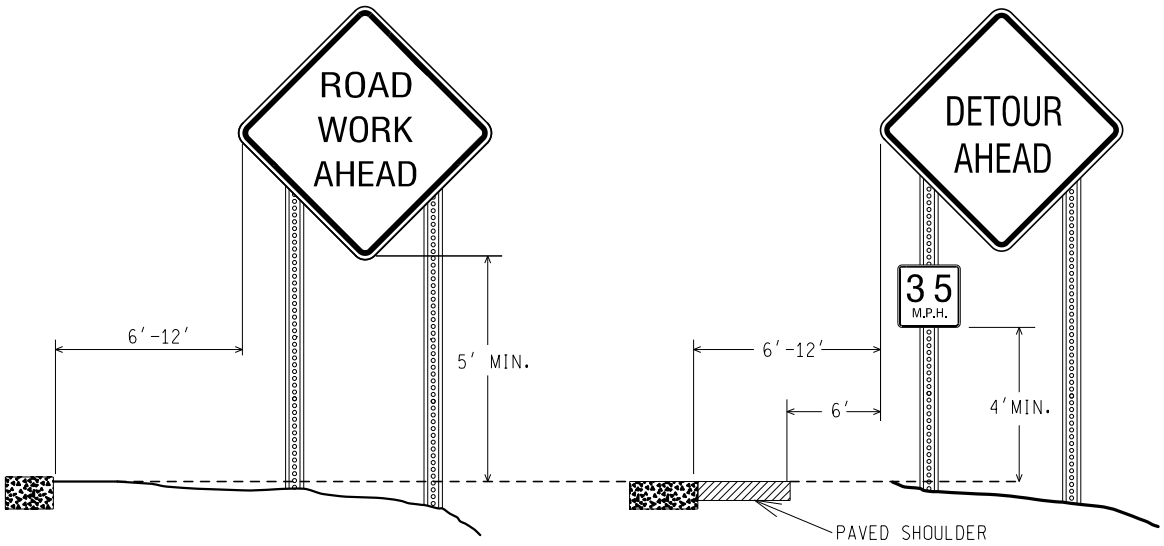


* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8' MIN. TO 9' MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE

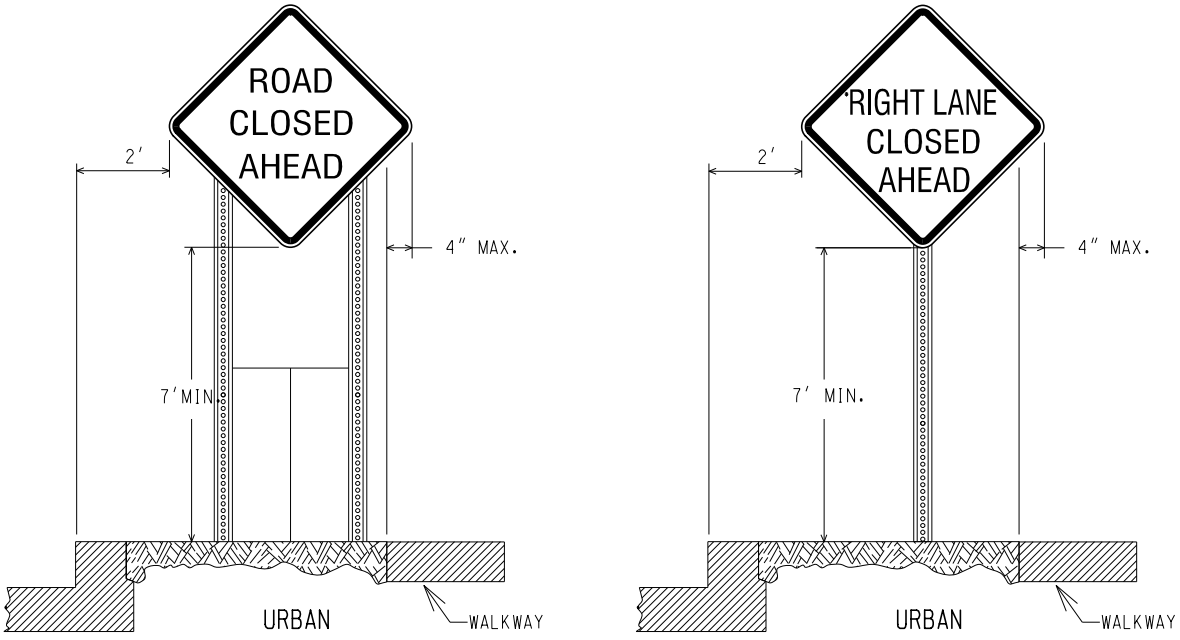
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 2 OF 11

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



RURAL

RURAL WITH ADVISORY
SPEED PLATE



(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

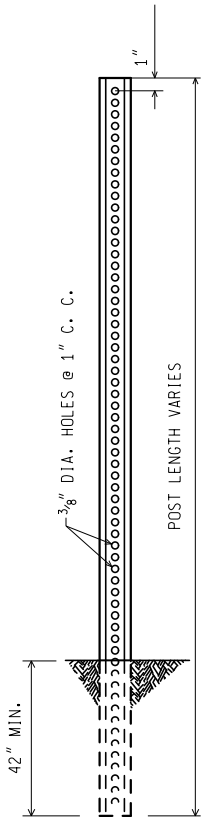
(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

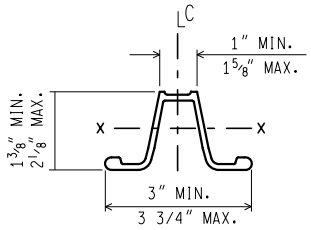
BOTTOM HEIGHT AND OFFSET

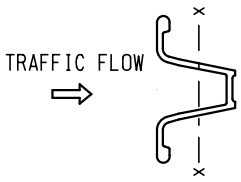
NOT TO SCALE

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.

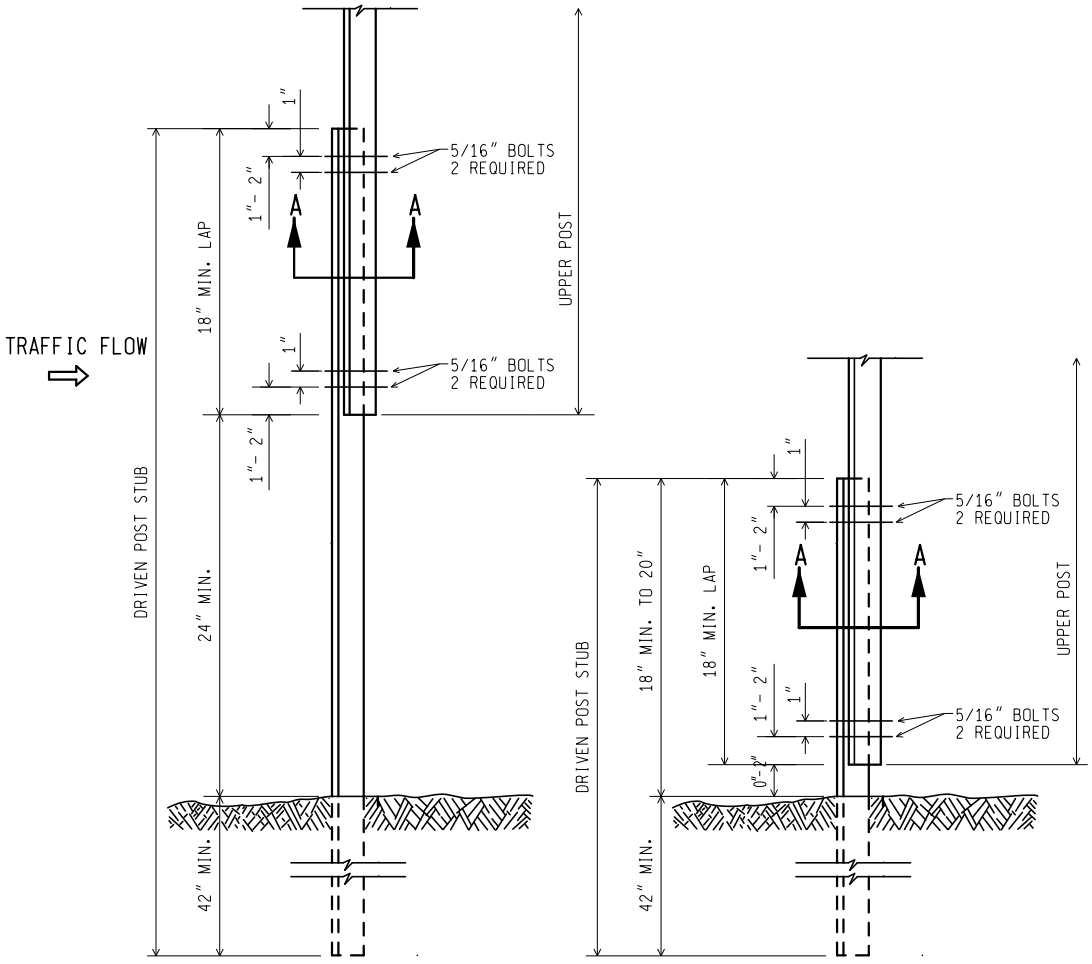
3 lb. U - CHANNEL STEEL POST
(NO SPLICE)

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

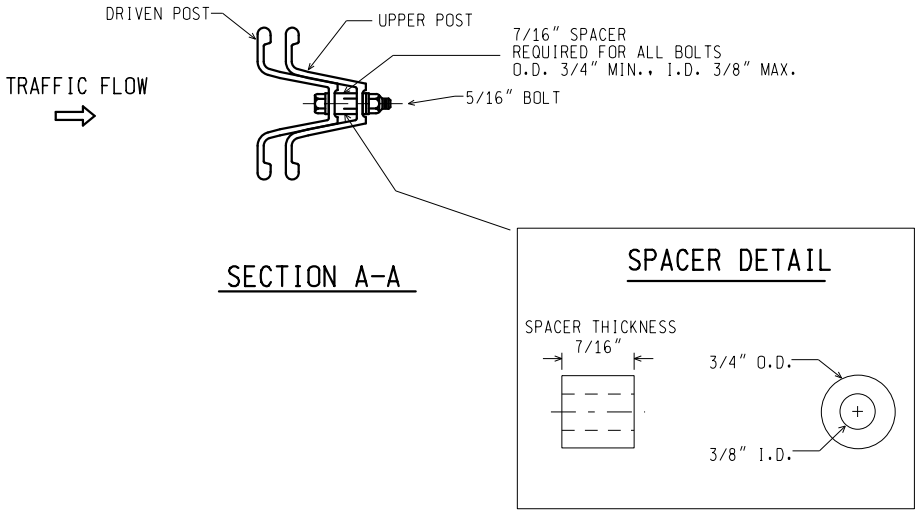
3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

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.



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.

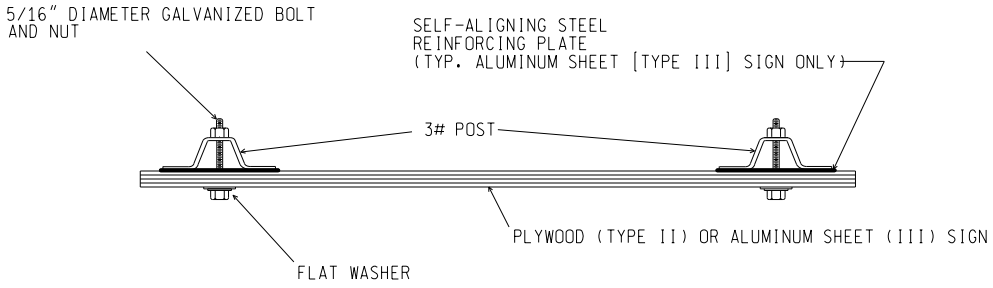
3. THE INTERIOR BOLT (FARTHEST FROM LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN THE NEXT PREPUNCHED HOLE.

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.

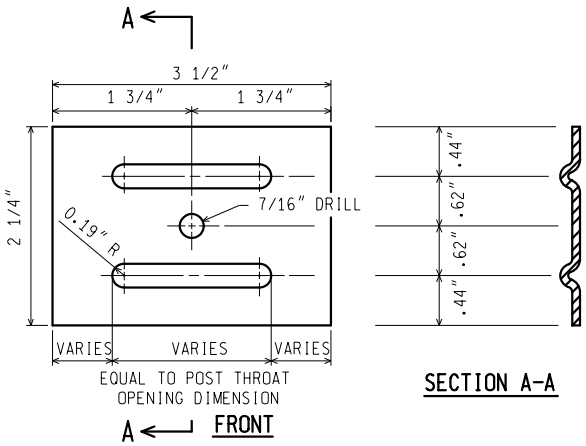
5. THE SPLICE LAP SHALL BE FASTENED BY FOUR-5/16" DIA. GALVANIZED A449 BOLTS (SAE J429 GRADE 5) OR GALVANIZED A325 BOLTS.

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

NOT TO SCALE



SIGN TO 3 lb. POST CONNECTION



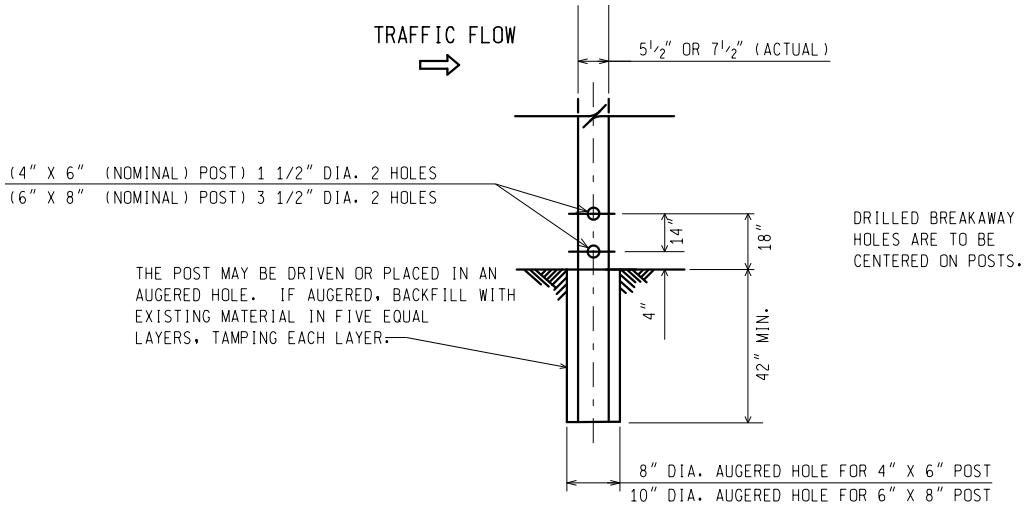
NOTES: (FOR STEEL SIGN REINF' PLATE)

1. MATERIAL: 12 GAUGE CARBON STEEL.
2. TOLERANCE ON ALL DIMENSIONS ± 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

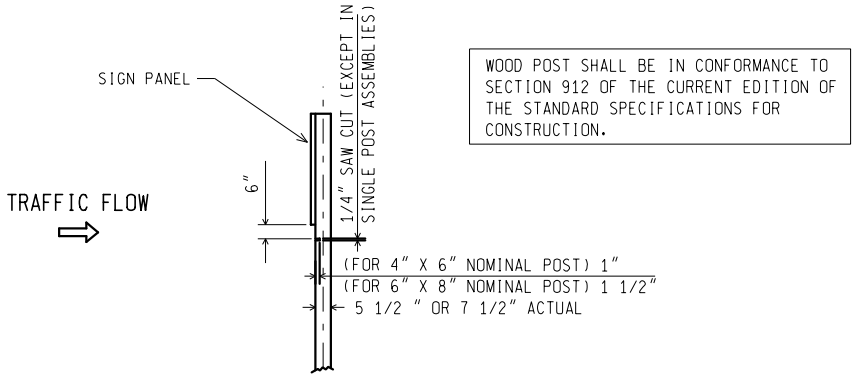
STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE



WOOD POST BREAKAWAY HOLES/ DIRECT EMBEDMENT DETAILS



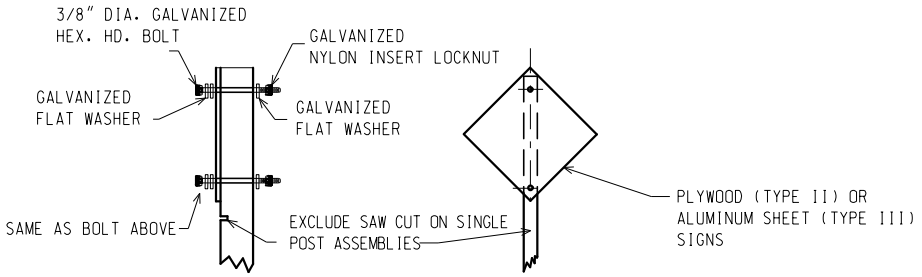
SAW CUT DETAIL (MULTIPLE POST INSTALLATIONS)

WOOD POST DETAILS

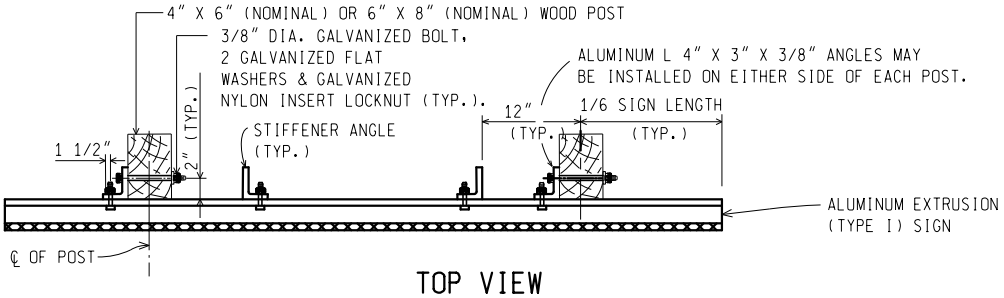
NOT TO SCALE

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

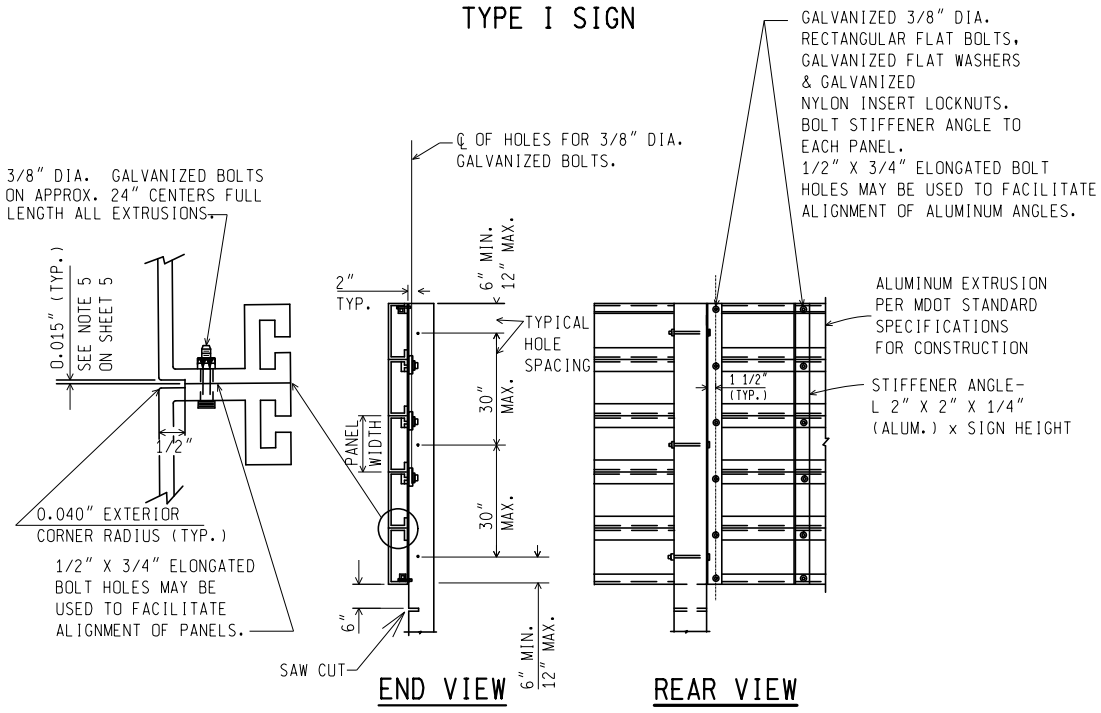
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



TYPE II AND TYPE III SIGNS



TOP VIEW
TYPE I SIGN



END VIEW
REAR VIEW

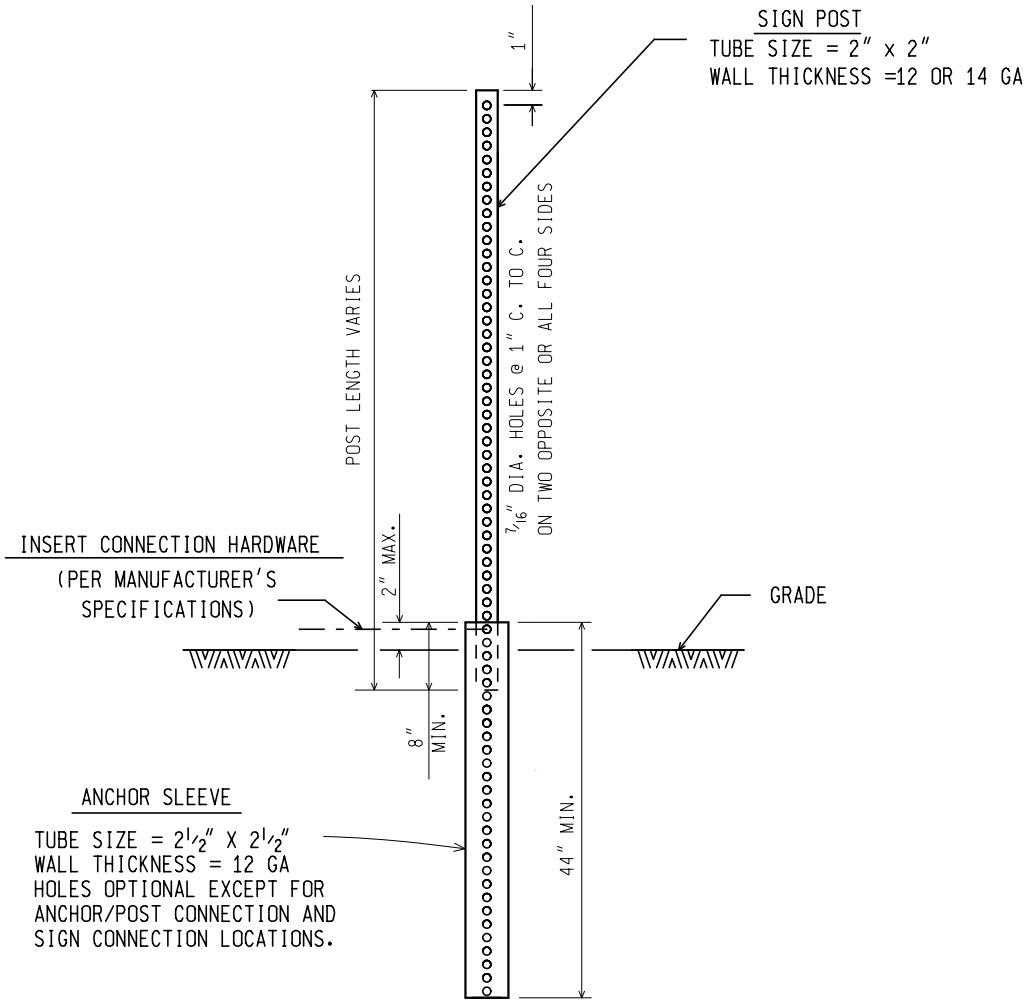
TYPE I SIGN - ERECTION DETAILS

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

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



SQUARE TUBULAR STEEL POST

NOT TO SCALE

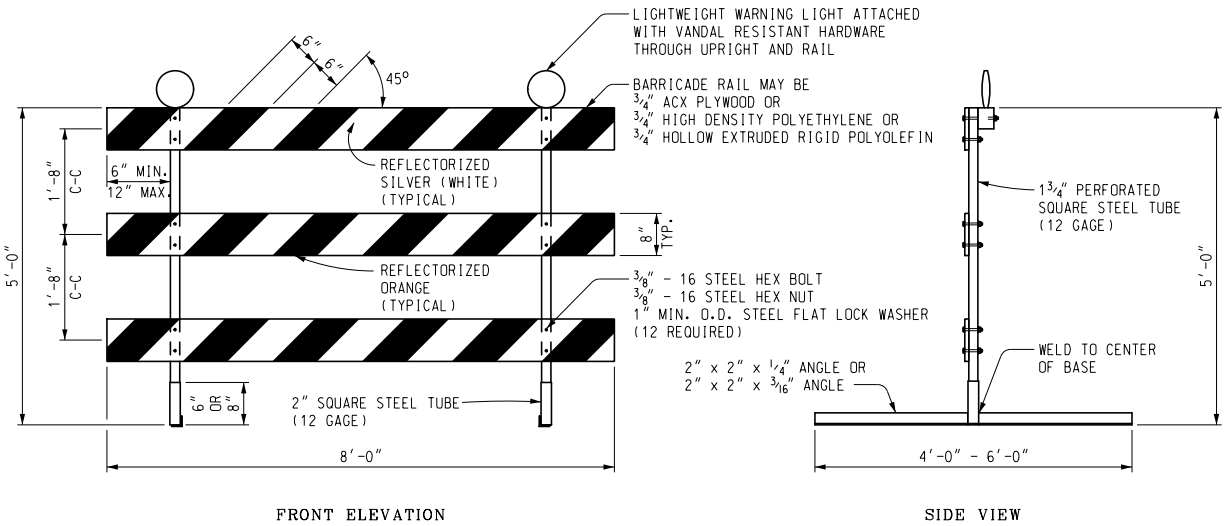
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 10 OF 11

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 HORIZONTIAL 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.

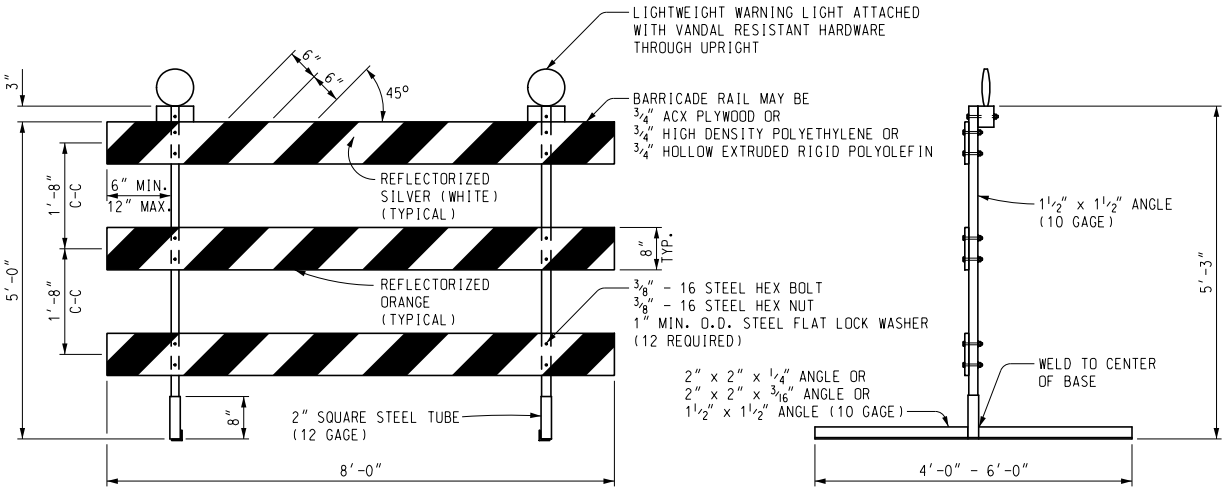
NOT TO SCALE



FRONT ELEVATION

SIDE VIEW

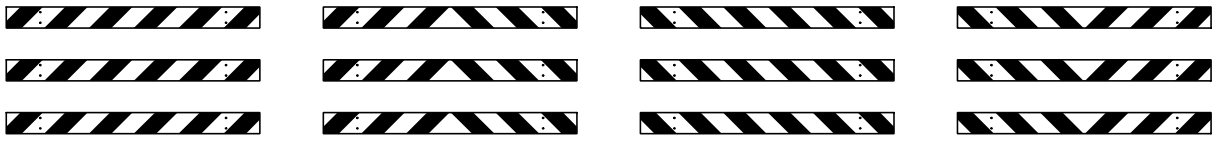
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION

SIDE VIEW

ANGLE IRON OPTION



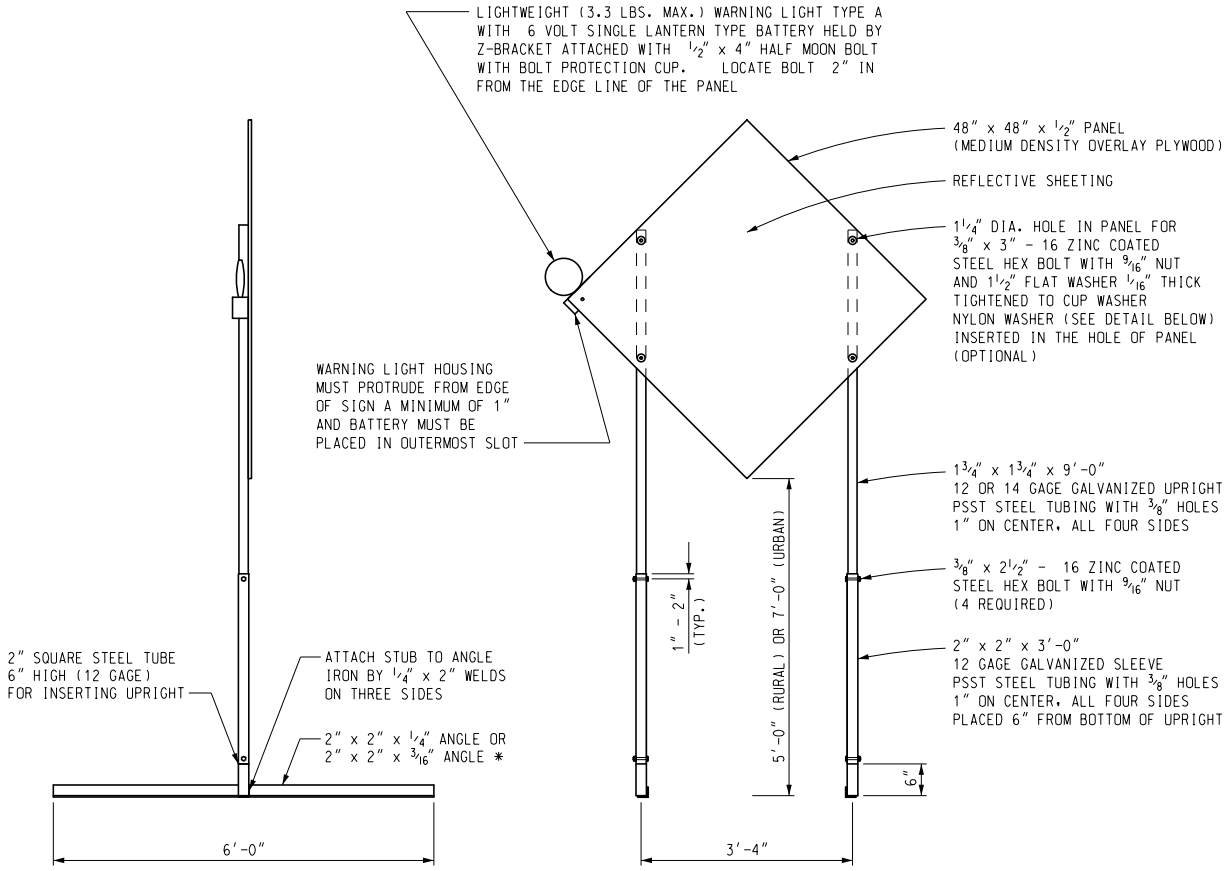
LEFT DIRECTIONAL | BI-DIRECTIONAL | RIGHT DIRECTIONAL | CLOSURES

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. Ajegba APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR Temporary Traffic Control Devices

F.H.W.A. APPROVAL	PLAN DATE		SHEET
	6/16/22	WZD-125-E	1 OF 3



SIDE VIEW

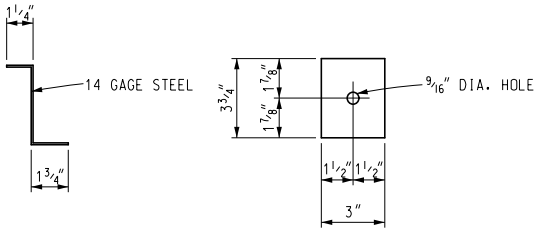
FRONT ELEVATION

TEMPORARY SIGN SUPPORT

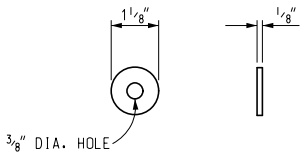
(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* 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



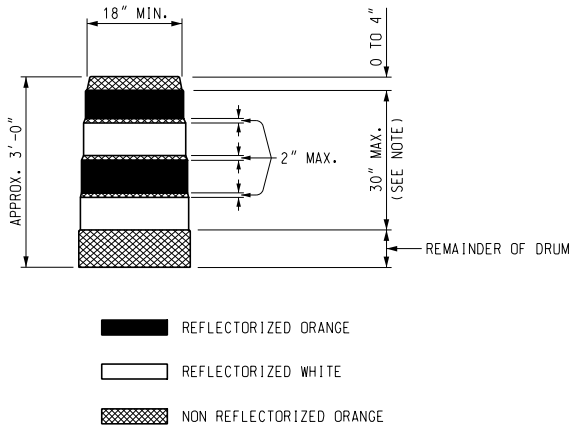
OPTIONAL NYLON WASHER

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 59	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.



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 BARICADE.

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 TEMORARY 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 60	(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
EXPEDITED EXECUTION AND AWARD OF CONTRACT

DES:CRT 1 of 1 APPR:MAS:LFS:08-25-20

Delete the first and fourth paragraphs of section 102.14, of the Standard Specifications for Construction in their entirety and replace with the following:

The Department will provide the contract and bond forms electronically to the determined low Bidder. The low Bidder will receive electronic notification of the documents availability at the e-mail address provided to the Department. The determined low Bidder will be responsible for printing the contract documents for return to the Department. Within 14 calendar days of transmittal, the Bidder must return, and the Department must receive the signed contract, bond forms, and other documents required by the Department. The Department may grant an extension of that deadline, if the extension would not impair the Department's interests. If the Department executes a contract received after the deadline, an extension will be deemed to have been granted.

If the Department does not receive the signed contract, bond forms, and other documents required within 14 calendar days of transmittal, or an extended deadline, the Department may award the contract to the next low Bidder, or otherwise exercise its discretion in accordance with subsection 102.13.

Delete the first sentence of section 102.16, of the Standard Specifications for Construction in its entirety and replace with the following:

The determined low Bidder's failure to sign the contract and submit satisfactory bonds and other required documents for the award of the contract within the 14 calendar day period provided, or within a Department-approved extension to that period, will result in the payment of the bid guaranty to the awarding authority.

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:

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:09-29-23

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

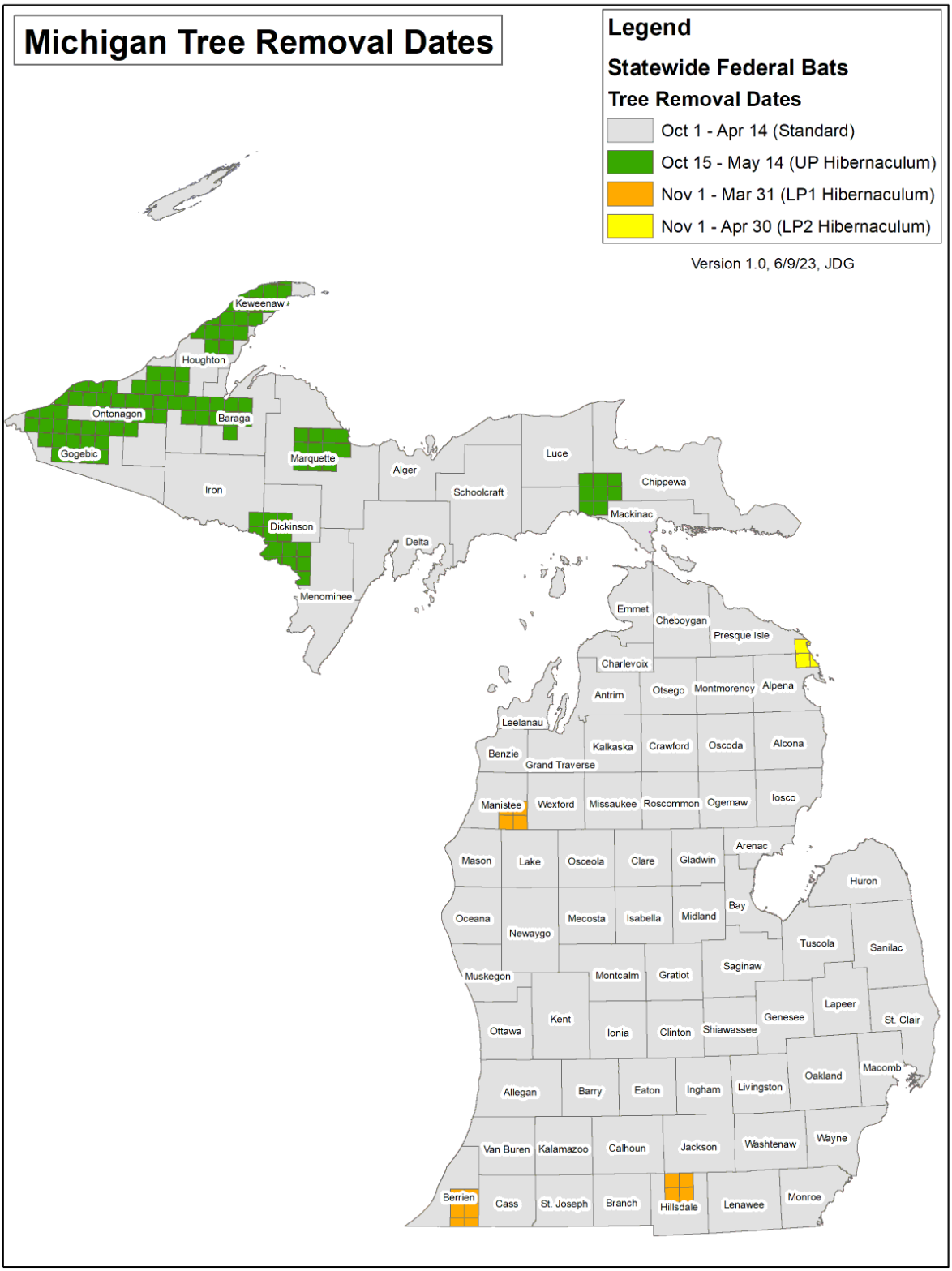
Due to the potential presence of state and federally protected species, complete all tree removals and clearing between October 1st and April 14th, as shown on the Michigan Tree Removal Dates map and Supplemental Information on pages 2 to 4 of this special provision.

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 of this special provision. 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	T50N R32W T50N R33W T50N R34W T50N R35W
	T49N R32W T49N R33W T49N R34W T49N R35W	
Berrien	T6S R17W T6S R18W	T8S R17W T8S R18W
	T7S R17W T7S R18W	
Chippewa	T44N R6W	T45N R6W T45N R7W
Dickinson	T38N R28W T38N R29W	T41N R29W T41N R30W
	T39N R28W T39N R29W T39N R30W T39N R31W	T40N R28W T40N R29W T40N R30W T40N R31W T42N R29W T42N R30W
Gogebic	T46N R42W T46N R43W T46N R44W T46N R45W	T48N R44W T48N R45W T48N R46W T48N R47W
	T47N R42W T47N R43W T47N R44W T47N R45W T47N R46W	T49N R45W T49N R46W T49N R47W T50N R45W
Hillsdale	T05S R03W T05S R02W	T06S R03W T06S R02W
Houghton	T49N R35W T49N R36W	T54N R33W T54N R34W
	T50N R35W T50N R36W	T55N R32W T55N R33W T55N R34W
	T51N R36W	

		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
MACHINE GRADING, MODIFIED

CON:SGI 205 1 of 2 08-16-23

a. Description. This work consists of grading for construction and shall be in accordance with section 205 of the Standard Specifications for Construction, except as outlined in this Special Provision. The work of Machine Grading, Modified shall consist of stripping, salvaging and stockpiling topsoil, all excavation, the utilization of all suitable material in constructing the adjacent fills and the furnishing, hauling, and placing of borrow and grading to achieve the typical cross sections shown on the plans and for the proposed intersections, driveway approaches, and approach replacements as shown on the plans.

Additional items include the removal and disposal of trees and stumps less than three inches in diameter, removal of hedges, shrubs, and bushes. Removal of abandoned existing telephone facilities within the subgrade that are required are included in Machine Grading, Modified.

The Contractor shall locate, protect, and preserve all drainage structures, water shutoffs, gate valves, air relief valves, and blow off valves located within limits of the proposed Machine Grading, Modified. This work shall also be included.

b. Materials. All materials shall be in accordance with section 902 and subsection 205.02 of the Standard Specifications for Construction.

c. Construction. This work shall include all necessary excavation, trenching, scarifying, plowing, disking, moving, hauling, shaping and compacting the earth to develop the cross section shown on the plans. Where undercuts below bottom of subbase for the purpose of removing additional objectionable material is ordered by the Engineer, the item of Subgrade Undercutting will apply.

The roadbed shall be finished to grade with a blade grader or equivalent equipment. All intersections, approaches, entrances, and driveways shall be graded as shown or as directed.

All items included shall be constructed in accordance with section 205 of the Standard Specifications for Construction.

The disposal of surplus and unsuitable material shall be in accordance with subsection 205.03.P of the Standard Specifications for Construction. Disposal of surplus and unsuitable material will not be paid for separately.

Existing topsoil shall be salvaged within this project. Payment shall be included with this special provision.

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
Machine Grading, Modified	Station

Machine Grading, Modified will be measured in place by the 100 foot station as measured along the main road centerline where work is to be performed which shall include both sides of the road from right-of-way or easement to right-of-way or easement which shall be payment in full for all work specified herein.

Work at intersections will not be paid for separately, but shall be considered included with payment for **Machine Grading, Modified** as measured along the main road centerline.

Quantities **for information only** for earthwork include the following:

Embankment, CIP	1,050 Cyd
Excavation, Earth	1,638 Cyd

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
APPROACH, MODIFIED

CON:SGI 307 1 of 1 03-11-24

a. Description. This work shall consist of placing and compacting an aggregate approach where called for on the plans in accordance with section 307 of the Standard Specifications for Construction and as specified herein.

b. Materials. Furnish aggregate only from geologically natural sources that is a quarried carbonate, with a minimum 95 percent two-faced crushed material (MTM 107) meeting the physical and grading requirements for Class 21A, 21AA, or 22A dense-graded aggregate for Class I aggregate (Class 23A for Class II aggregate).

c. Construction. Place aggregate approach material 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 for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Approach, Cl _, _ inch, Modified	Square Yard
Approach, Cl _, Modified	Ton

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SHOULDER, CLASS II, _ INCH, MODIFIED

CON:SGI 307 1 of 1 03-11-24

a. Description. This work shall consist of placing and compacting an aggregate shoulder where called for on the plans in accordance with section 307 of the Standard Specifications for Construction and as specified herein.

b. Materials. Furnish aggregate only from geologically natural sources that is a quarried carbonate, with a minimum 95 percent two-faced crushed material (MTM 107) meeting the physical and grading requirements for Class 23A dense-graded aggregate.

c. Construction. Place aggregate shoulder material 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 for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Shld, Cl II, _ inch, Modified	Square Yard

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
TRENCHING, MODIFIED

CON:SGI 307 1 of 2 08-16-23

a. Description. This work shall consist of Trenching and be in accordance with section 307 of the Standard Specifications for Construction, except as outlined in this Special Provision. The work of Trenching shall consist of stripping, salvaging and stockpiling topsoil, all excavation, all embankment, the utilization of all suitable material in constructing the adjacent fills and the furnishing, hauling, and placing of borrow and grading to achieve the typical cross sections shown on the plans and for the proposed intersections, driveway approaches, and approach replacements as shown on the plans.

The Contractor shall locate, protect, and preserve all drainage structures, water shutoffs, gate valves, air relief valves, and blow off valves located within limits of the proposed Trenching.

b. Materials. All materials shall be in accordance with section 902 and subsection 307.02 of the Standard Specifications for Construction.

c. Construction. Trenching shall include all necessary stripping, salvaging and stockpiling topsoil, excavation, moving, hauling, embankment, shaping and compacting the earth to develop the proposed cross section shown on the plans. Where undercuts below bottom of base for the purpose of removing additional objectionable material is ordered by the Engineer, the item of Subgrade Undercutting, Type II will apply.

The roadbed shall be finished to grade with a blade grader or equivalent equipment. All intersections, approaches, entrances, and driveways shall be graded as shown or as directed by the Engineer.

The disposal of surplus and unsuitable material shall be in accordance with subsection 205.03.P of the Standard Specification for Construction. Disposal of surplus and unsuitable material will not be paid for separately.

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

Pay Item	**Pay Unit**
Trenching, Modified	Station

Trenching, Modified will be measured in place by the 100 foot station as measured along each side of the road where work is to be performed which shall be payment in full for all work specified herein.

Quantities **for information only** for earthwork include the following:

Embankment, CIP	29 Cyd
Excavation, Earth	911 Cyd

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
CULVERT, CLASS A, PLASTIC, 48 INCH

CON:SGI 401 1 of 1 03-11-24

a. Description. This work consists of furnishing and installing culvert as detailed on the plans in accordance with section 401 of the Standard Specifications for Construction and as specified herein.

b. Materials. The culvert must be wrapped, smooth-lined, corrugated, high density polyethylene (HDPE) pipe conforming to AASHTO M 294, Type SP according to AASHTO M 252 and meeting the requirements of Table 401-1 of the Standard Specifications for Construction.

c. Construction. Construction must be in accordance with section 401 of the Standard Specifications for Construction except as modified herein. The pipe must be installed according to the trench detail shown on the plans or as directed 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**
Culv, Cl A, Plastic, 48 inch	Foot

Culv, Cl A, Plastic, 48 inch includes all labor, equipment and materials necessary to complete the work as described.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SEWER PVC

CON:SGI 402 1 of 1 09-11-23

a. Description. The work of Sewer, PVC, 12 inch, Tr Det B shall consist of excavation, furnishing and placing plastic sewer pipe, and trench backfill, in accordance with section 402 of the Standard Specifications for Construction, Michigan Department of Transportation Standard Plan R-83 series and the details within the construction plans, except as modified herein.

b. Materials. Materials for sewer pipe shall meet or exceed ASTM D-3034 SDR-26 or ASTM D-2241 SDR-26 specifications for PVC integral gasket sewer pipe, depending on pipe diameter. Material for backfill shall be in accordance with the details within the standard plan R-83 series.

c. Construction. The extensions/connections to existing culverts/sewers on this project may require extra work to obtain a tight seal at the joint connecting new pipe to existing pipe. The joint between the existing and new pipes shall be constructed according to the Standard Specifications for Construction and as directed by the Engineer. Any extra work required to obtain tight joints will not be paid for separately but will be included in compensation for new pipe.

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**
Sewer, PVC, 12 inch, Tr Det B	Foot

Sewer, PVC, 12 inch, Tr Det B will be measured in place by length in feet and will be paid for at the contract unit price per foot which price shall be payment in full for any banded coupler fittings, connecting to existing sewers, neoprene gaskets, couplers, sheeting or shoring trench walls, backfill as required and all labor, material and equipment needed to accomplish this work.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SUMP PUMP LEAD AND DRAIN TILE CONNECTION

CON:SGI 402 1 of 1 08-06-23

a. Description. This work shall consist of constructing free flowing outlets for all sump pump leads and drain tiles encountered during construction, and connection to the proposed storm sewer or storm drainage structures.

b. Materials. The Contractor shall extend each sump pump lead and drain tile with piping of a diameter equal to that of the existing tile or as directed by the Engineer. The piping shall be made of polyvinyl chloride plastic and shall meet the requirements as specified in ASTM D 1785, Schedule 40, ASTM D 2665, or ASTM D 3034 Type SDR 23.5.

c. Construction. The sump pump leads or drain tile extension shall extend from the existing sump pump lead or drain tile to the proposed storm sewer, storm drainage structure, or proposed drain bank.

The sump pump leads or drain tile shall be connected to the existing or proposed storm sewer, culvert, or drainage structure in accordance with the Sewer, Tap, _ inch or Dr Structure, Tap _ inch per sections 402 or 403 of the Standard Specifications for Construction.

For any sump connection into a sewer or culvert; only approved watertight joint systems pursuant to Standard Specifications for Construction will be allowed. Mortar joints, pursuant to section 402 of the Standard Specifications for Construction will ONLY be allowed when tapping into a CONCRETE mainline sewer or culvert. All other NON-CONCRETE sewer or culverts shall be tapped using manufactured fitting(s) meeting the approved watertight joint specification, defined in subsection 909.03 of the Standard Specifications for Construction.

The Contractor shall connect the existing sump pump leads and drain tiles to the new pipe by the use of standard adapter fittings or by using methods approved by the Engineer that will provide a satisfactory leak proof installation.

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**
Sump Pump Lead and Drain Tile Connection	Foot

Sump Pump Lead and Drain Tile Connection will be measured and paid for at the contract unit price per linear foot. Taps to sewer, culverts, or drainage structures will not be paid for separately but will be included in payment for **Sump Pump Lead and Drain Tile Connection**.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
DRAINAGE STRUCTURE COVER, TYPE DG

CON:SGI 403 1 of 1 03-11-24

a. Description. This work consists of furnishing and installing new covers, including frames and grates, on new or existing drainage structures as described herein, and as shown in the plans, in accordance with sections 403 & 908 of the Standard Specifications for Construction and as specified herein.

b. Materials. The materials shall be in accordance with sections 403 and 908 of the Standard Specifications for Construction.

The type of frames and grates for drainage grate to be furnished and installed on this project in grass areas shall be E.J. #1046 frame with type N oval grate, Neenah #R-4370 frame with type C oval grate, or equal, and shall properly fit the openings for the proposed drainage structures. The type of frames and grates for Drainage Grate to be furnished and installed on this project in paved areas shall be E.J. #1020 frame with M1 grate, Neenah #R-2502 frame with Type C grate, or equal and shall properly fit the openings for the proposed drainage structures.

The grates shall be stamped with “Dump No Waste Drains to Waterways” lettering.

c. Construction

Castings shall be placed on a full bed of mortar.

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**
Dr Structure Cover, Type DG	Each

The work of **Dr Structure Cover, Type DG** will be measured by the unit each and will be paid for at the contract unit price per each, which price shall be payment in full for all labor, material, and equipment necessary to accomplish this work.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
DRAINAGE STRUCTURE, MODIFIED

CON:SGI 403 1 of 1 03-11-24

a. Description. The work shall consist of placing drainage structures of the size and at the locations as shown on the plans in accordance with sections 403 & 913 of the Standard Specifications for Construction and as specified herein.

b. Materials. Drainage structures shall be precast reinforced concrete units manufactured to American Society for Testing Materials (ASTM) C-478 specifications and section 913 of the Standard Specifications for Construction, with either a cast in place bottom or precast concrete base as detailed on the plans.

Masonry structures will not be allowed to be used on this project, unless approved by the Engineer for special circumstances, or where specifically called for on the plans.

Thirty-six inch diameter drainage structures (catch basins or inlets) will be allowed to be used on this project, where called for on the plans or where directed by the Engineer.

c. Construction. Construction shall be in accordance with subsection 403.03 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 item:

Pay Item	**Pay Unit**
Dr Structure, __ inch dia, Modified	Each

The work of **Dr Structure, __ inch dia, Modified** includes the concrete footing, and up to 8 foot of drainage structure depth. **Dr Structure, __ inch dia, Modified** will be measured by the unit each and will be paid for at the contract unit price per each.

If during construction, due to utility conflicts or plan revisions, modifications are required to the piping connection holes or additional taps are required to precast concrete sections, this work will be paid for separately, in the Pay Item for the **Dr Structure, Tap, __ inch**.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HOT MIX ASPHALT PRICES FOR ADJUSTMENTS

LAP 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
5010061	HMA Approach	Ton	$115.90
5012024	HMA, 4EL	Ton	$70.18
5012036	HMA, 5EL	Ton	$74.19

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
STRUCTURAL STEEL, SPECIAL

a. Description. This work consists of disassembling, restoring, fabrication and erection of an existing structural steel truss for a pedestrian bridge. The restoration of the bridge shall be in a way that retains as much of the original material as possible. In addition, whenever possible, the restoration techniques will be similar to those used in the original manufacture of the bridge (known as “in-kind” restoration). Rivets will be purchased new and will comply with the Industrial Fastener Institute standards. This work shall be done as specified herein and according to section 713 of the Standard Specifications for Construction and the plans.

b. Materials. Structural steel required for restoration work shall be AASHTO approved material as specified in section 906 of the Standard Specifications for Construction and of the grade shown on the plans.

1. Rivet Type and Material. Provide new rivets compliant with the Industrial Fastener Institute Standards. Ensure rivets are hot-driven round button head. Ensure all rivets conforms to the material requirements of *ASTM A 502*. Ensure all rivets conform to the dimensional requirements of *ANSI Standard B18.1.2*. Ensure rivets are approximately hemispherical in shape and match the size of existing rivets removed throughout the bridge.

2. Bolts. Provide *ASTM A 325* Button Head Tension Control Bolt assembly (bolt, nut, washer).

c. Construction.

1. Fabrication. Welding required for restoration and repair of the structural steel members shall be according to AWS D1.5 - Bridge Welding Code and according with subsection 707.03.E.7 of the Standard Specifications for Construction.

Prepare written welding procedure for attachment of new steel to original steel or cast iron members, as established by testing. Perform weld procedure tests in the same position and joint configuration required for the field welding. The Engineer will approve the written welding procedure after completion of successful weld testing.

All welds used to join new replacement steel to existing steel members shall be ground flush. Welds shall be ground parallel with the axis of the member and shall be free of gouges and nicks. After cleaning and coating of the steel, the repair weld shall be undetectable.

2. Riveting. Unless otherwise specified, truss connectors shall be replaced in kind. Where bolts were used previously, they shall be replaced with A-325 Button Head Tension Control Bolts.

A. Removal. A pneumatic rivet buster shall be used to remove rivet heads. Chisels

and/or punches shall be placed in the rivet buster to punch out rivets after the rivet heads are removed. If a rivet can not be removed with a rivet buster, an electric or pneumatic hand grinder shall be used. Do not damage steel material to remain.

B. Quality Control. The Contractor shall submit documentation to the Engineer of his proposed rivet removal and installation method and quality control procedures prior to construction.

C. New Rivet holes. Rivet holes for new structural steel plates and members shall be either drilled or punched.

(1) Drilled. Steel angles or plates having a thickness equal to or greater than 3/4 inch for grade A36 and 5/8 inch for grade 50 shall be drilled. All holes shall be drilled at 90 degrees to the working surface. Extreme pressure shall not be applied to the drilling device as to punch through the material. When drilling through more than one member, the members shall be secured tightly to prevent misalignment of holes due to shifting or separation of the members.

(2) Punched. If holes are punched, they shall be punched to a diameter 1/8 inch less the required size and reamed to the correct size as specified above. After reaming, the holes shall be inspected for radial cracking. If radial cracking is present or holes are misaligned, the holes shall be reamed to the next larger rivet size.

All holes shall be 1/32 inch to 1/16 inch greater than the rivet shank diameter. Holes deemed to be out of tolerance shall be welded shut and re-drilled or reamed to allow for the next larger size rivet.

(3) Oversized Holes. Where riveting new steel to existing steel, the new holes shall match the existing holes in diameter and alignment within the tolerances specified above. If the existing steel has deformed holes due to elongation, advanced corrosion or other mechanical damage, it shall be reamed to accommodate the next larger size rivet. The minimum required row spacing, pitch and edge clearances shall be maintained when enlarging existing rivet holes. The enlarging of existing rivet holes shall be limited to 20 percent of the rivets or 10 rivets in a single pattern, which ever is less. Exceptions to these requirements may be approved as field conditions necessitate, but shall be reviewed by the Engineer prior to performing the work. The Contractor shall notify the Engineer when encountering such field conditions.

D. Preparation. Remove all chips, burrs and foreign material resulting from drilling, punching or corrosion from the surfaces to be joined before members are riveted together. Do not exceed a depth of 1/32 inch if burrs are removed by chamfering. Blast clean and prime members to be riveted or bolted together before re-assembly. Temporarily pin or bolt and rigidly clamp members to be riveted together while riveting. Do not distort or enlarge holes due to drifting of parts during assembly. Determine the number and pattern of temporary pins or bolts necessary to bring surfaces into adequate contact for riveting. Ensure such pattern is included in the submittal required by section c.1 of this special provision. Successively remove temporary pins or bolts as rivets are installed. Rivet grip lengths will vary depending on location. Size the length of undriven rivets to provide minimum head dimensions as specified in *ANSI B18.1.2*. (see *AISC, Manual of Steel*

Construction, Sixth Edition, 4-83 for guidance).

E. Installation. The rivets shall be heated in an electric, gas or kerosene furnace and shall be driven within the range of 1500-1950 degrees Fahrenheit (F). The maximum heating temperature will make the rivets a light yellow in color. Avoid continual heating of rivets in furnace after they have reached driving temperature (excessive “soaking”). Avoid direct flame impingement on the rivets during heating. Position the rivet into the hole. Evaluate the diameter, length, temperature and fit of the rivet prior to working. Ensure the rivet is rejected and corrective actions taken if all is not correct. Prior to riveting knock clear any slag formed on the rivets.

The hot rivet shall be driven into the holes. Rivets shall be driven using a Boyer field-riveting hammer (or approved equal). The driven rivets shall be tight and in uniform contact with the surfaces of the joined members. The surfaces of angles or plates to be riveted shall not be scared from the process of driving the rivets.

Approved sources for either used or rebuilt riveting equipment include:

(1) Michigan Pneumatic Tool, Inc., Detroit, MI (313-933-5890)

(2) Jay-Cee Sales and Rivets, Farmington, MI (888-527-4838)

(3) Champion Rivet Company, Cleveland, OH (800-348-6014)

F. Workmanship. Accomplish installation of rivets in a workmanlike manner. Ensure rivet assemblies are of uniform quality and free from cracks, gaps, sharp edges, burrs, loose parts or other defects which might render the assemblies unsuitable for its intended purpose.

G. Quality Control. All riveting quality control is the responsibility of the Contractor. Inspect all rivets immediately upon completion of driving and forming to ensure the rivet heads are seated against the plate or angle surface and are not cracked. Visually inspect each rivet for the conformance with *ANSI standard B18.1.2*. Sound each rivet to ensure it is clamped tightly in place. Loose rivets or button head dimensions out of specification will be rejected. All costs associated with replacement of rejected rivets will be borne by the Contractor.

The following is a list of qualified persons that rivet bridge structural steel. These are the only riveters that may be used unless otherwise approved by the Engineer.

(1) Doug Lockhart. The Maker of Hand Forged Iron (740) 380-6816

(2) Nels Raynor. Bach Steel (517) 455-4443 or (517) 581-6243

(3) Steve Howell. Ballard Forge (202) 235-3246

(4) Ross Brown. Village Blacksmith (765) 202-0149

Additional riveters may be trained at Lansing Community College. Contact Vern Mesler,

(517) 614-9868 for information.

3. Truss Pin Replacement. Lower chord truss pins are to be removed, replicated, and replacements installed. Secure vertical members prior to pin removal.

Clean Bridge pin threads by heating with an oxy fuel torch and clean with a wire brush. Heat recessed nuts with an oxy fuel torch and remove with an impact wrench. Clean and salvage recessed nuts. All recessed nuts shall be non-Destructive tested (NDT) using magnetic particle process to determine if any cracks have occurred. Salvaged nuts shall be galvanized prior to final installation.

Remove the batten plate using the methods described in this special provision for rivet removal. Remove bridge pins without damaging the eye bars or the floor beam connection plate. Bridge pins are not to be saved. Machine new bridge pins with threaded ends machined to match the threads of the historic recessed nut.

At each pin replacement location, the vertical member shall be repaired by fabricating and splicing a new section as shown on the plans. Before cutting the vertical channel, reference dimensions shall be taken in order to accurately locate the replicated channel splice sections.

Splice sections shall be fabricated 3 inches longer to match cut during the fit up and welding operation.

All welding shall conform to AWS standards for full penetration welds with E7018 low hydrogen electrodes at the splice connections.

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
Structural Steel, Furn and Fab, Special	Pound
Structural Steel, Truss Pin, 2-1/2 inch dia	Each
Structural Steel, Restoration and Erect	Lump Sum
Structures, Rehabilitation, Rem Portions, Special	Lump Sum

Structural Steel, Furn and Fab, Special includes furnishing and fabrication of new structural steel required for restoration repairs, new rivets and cleaning and coating of the new structural steel.

Structural Steel, Truss Pin, 2-1/2 inch dia includes furnishing, fabrication and installation of new pins.

Structural Steel, Restoration and Erect includes all labor and material for, restoration repairs, straightening of existing members and heating and hammering and erection of the bridge. Cleaning and coating of existing structural steel members shall be paid for separately.

Structures, Rehabilitation, Rem Portions, Special includes all labor, equipment and material for removal of portions of the existing structure as identified on the plans, including removal and salvaging of the existing pin nuts.

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Sheet removed by Addendum #1

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
RAILING, PEDESTRIAN

CON:SGI 711 1 of 1 08-12-23

a. Description. This work consists of all materials to furnish and place pedestrian railing and shall be constructed in accordance with sections 707, 709 and 711 of the Standard Specifications for Construction and as shown on the plans. This work includes all fasteners, anchors and mounting hardware necessary for a complete installation.

b. Materials. Use material meeting the following:

Structural Steel.....906
Miscellaneous Metal Products 908
Timber and Lumber.....912

All railing components shall be coated semi-gloss black according to section 716 of the Standard Specifications for Construction and meeting Federal Standard 595B color number 27038.

c. Construction. Construct railing in accordance with sections 707, 709 and 711 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 item:

Pay Item	**Pay Unit**
Railing, Pedestrian	Foot

Railing, Pedestrian includes all labor, equipment, and materials required and will be paid for by the foot based on plan quantities.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
WOOD AND AGGREGATE STEPS

CON:SGI 803 1 of 1 03-11-24

a. Description. This work consists of placing steps where called for on the plans in accordance with section 803 of the Standard Specifications for Construction and as specified herein.

b. Materials. Furnish timber and aggregate as required per the detail in the plans.

c. Construction. Place timber and aggregate in accordance with sections 302 and 803 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**
Steps, Wood and Aggregate	Square Foot

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SHARED USE PATH AGGREGATE

CON:SGI 806 1 of 1 08-06-23

a. Description. This work consists of placing and compacting aggregate for shared use paths and shall be in accordance with section 806 of the Standard Specifications for Construction as herein modified.

b. Materials. Furnish aggregate only from geologically natural sources that is a quarried carbonate, with a minimum 95 percent two-faced crushed material (MTM 107) meeting the physical and grading requirements for Class 22A dense-graded aggregate.

c. Construction. The construction methods shall be in accordance with section 806 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 item:

Pay Item	**Pay Unit**
Shared use Path, Aggregate, _ inch	Square Yard

Shared use Path, Aggregate, _ inch will be measured by area in square yards; and will be paid for at the contract unit price per square yard; which price shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
RIPRAP, HEAVY, MODIFIED

CON:SGI 813 1 of 2 08-12-23

a. Description. This work consists of diverting stream flow, preparing channel grades, installing geotextile liner, and furnishing and placing well-graded riprap on channel bottoms and side slopes. All work will be done according to the plans and the Standard Specifications for Construction as herein modified.

b. Materials. Stone used for riprap shall be well graded natural stone, free from shale, spoil, and organic material. Broken concrete will not be allowed. The ratio of greatest to least dimension shall not exceed 3:1 for any individual stone.

The gradation shall meet the requirements specified in **Table 1 Gradation Requirements for Riprap-Special, Individual Stones**. Acceptance of the gradation will be based on visual inspection of riprap in-place by the Engineer. Sampling for laboratory testing will be at the discretion of the Engineer.

Geotextile liner must meet the requirements of section 910 of the Standard Specifications for Construction.

c. Construction. The construction methods shall be in accordance with section 813 of the Standard Specifications for Construction. Riprap shall be placed on prepared grades to the elevations, thickness, and lateral limits shown on the plans. Areas to be protected by riprap shall be cleared of brush, trees, stumps and debris. All grades shall be shaped and compacted to the required cross section, including excavation for toe and header plan details. Geotextile Liner shall be placed on the prepared grades according to the *Soil Erosion and Sedimentation Control Manual*. The riprap installation shall not damage the Geotextile Liner.

Careful placement of riprap with a clam bucket or other approved method will be required to assure that there is no damage to structure footings and no material loss around or under structure foundations. Any structure damage shall be repaired by the Contractor as directed by the Engineer, at no cost to the Department.

On slopes, placement of riprap stone shall start at the toe and proceed up the slope, with each stone firmly bedded into the slope and against the adjoining stones. The riprap shall be constructed to minimize voids by select placement of optimum stone sizes from the gradation specified. If placed riprap contains large voids, the Engineer may direct the contractor to place additional stones of the smaller gradation sizes to fill the voids. The finished surface of the riprap shall present a tight, even surface.

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**
Riprap, Heavy, Modified	Square Yard

Riprap, Heavy, Modified will be measured in place in square yards of top surface area after all layers are in place. Payment for **Riprap, Heavy, Modified** includes furnishing all materials, equipment, and labor to divert stream flow, clear and prepare grades, furnish and place Geotextile Liner, and to place the riprap stone, including headers, according to this specification.

TABLE 1 Gradation Requirements for Riprap-Special, Individual Stones

Least Dimension, Inches	Percent Smaller Than
41	100
34	85
28	50
15	15

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
BOULDER

CON:SGI 815 1 of 1 03-11-24

a. Description. This work consists of providing and placing boulders in accordance with section 815 of the Standard Specifications for Construction and as specified herein.

b. Materials. Boulders must be from Michigan. Boulders must be 36 inches or greater.

c. Construction. All work shall be done in accordance with section 815 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 item:

Pay Item	**Pay Unit**
Michigan Boulder, 36 inch or greater	Each

Payment for **Michigan Boulder, 36 inch or greater** shall include all labor, equipment, and materials for placement of boulders within the project.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
BIKE PATH VEGETATION TREATMENT

CON:SGI 816 1 of 3 12-23-22

a. Description. This work consists of furnishing and applying the herbicide to the finished grade prior to placing subbase and aggregate base and documenting the applications. This treatment is to control vegetation before and after plant growth begins under asphalt, aggregate base, and subbase. The asphalt must be a minimum of two inches thick in order to use this application.

The contractor will hold the Michigan Department of Transportation and its agents harmless for the effects the herbicide application may have to property or persons on or off the highway right-of-way.

b. Materials. The active ingredients to be sprayed on all areas designated will consist of a tank mix of Pramitol 25 E manufactured by AgriSOLUTIONS, Sonora 4SC manufactured by Makhteshim Agan of North America, Inc. or an approved equal. Use water and a drift control agent as required by the manufacturer.

c. Construction.

1. Application. The application rate will be determined by the contractor and as specified by the product label. The rate will be sufficient to control/kill the vegetation, but will not exceed the label rate limitations per square foot/year. The contractor will apply all of the materials as designated on the material labels.

The contractor will schedule the application of herbicide in the designated areas with the Project Engineer. The contractor will, at his own expense, secure permits and licenses required by federal, state and local government for work completed under this contract.

2. Placement. After preparation and compaction of surface to be paved with bituminous, the mixture will be applied at the specified rate per square foot to the area to be paved.

The area sprayed will be limited to the area that will be covered with subbase the same day. The entire area will be covered with a uniform application. Care will be taken to avoid damage to adjacent areas by avoiding spray, drift or spillage outside the area to be treated.

The contractor will be held responsible for claims of damage resulting from the work.

3. Damages. The contractor will at his/her own expense, preserve and protect from injury all property, either public or private, along and adjacent to the roadway, and he/she will be responsible for and repair, at his/her own expense, any and all damage and injury thereto, arising out of, or in consequence of any act or omission of the

contractor or his/her employees in the performance of the work covered by the contract prior to completion and acceptance thereof.

Damage to the turf or landscape plant material caused by any action of the contractor including, but not limited to: (1) drift, leaching or lateral movement of the herbicide application from the target area or (2) rutting, scraping or gouging from equipment, will be repaired/replaced as specified herein.

Turf damage repairs will be made by the contractor in accordance with section 816 of the Standard Specifications for Construction and as herein specified. Seeding will only be allowed during the seasonal limitation periods.

All landscape plant material damaged by the contractor will be replaced in kind according to section 815 of the Standard Specifications for Construction and as herein specified. Planting may only be done in the spring and prior to May 10. All replacement plants must be maintained during the specified establishment period.

All repairs will be made to the satisfaction of the Project Engineer. Payment for work performed may be withheld until satisfactory repairs are made. If repairs are made by the Department, the actual replacement costs including all labor, equipment, materials, and fringe benefits will be charged to the contractor.

4. Equipment and Operating Method. The contractor will furnish, operate and maintain suitable and adequate equipment to perform the spraying operation in a workmanlike manner without hindrance or damage to the roadside. The contractor will also have satisfactory equipment to complete the work in the time frame specified by the Project Engineer.

5. Personnel. The contractor will furnish sufficient trained personnel qualified as certified commercial pesticide applicators, in the required categories in the State of Michigan, to complete the work in the specified time frame under normal seasonal conditions. Contractor will comply with all federal, state and local laws and regulations as specified in section 107 of the Standard Specifications for Construction. The Commercial Pesticide Certification will be verified for all applicators prior to any and all applications.

6. Reporting. The contractor shall submit a written report(s) to the Project Engineer. The form "Roadside Chemical Spray Control Inspection Report" shown in Figure 1 will be used for reporting purposes. All information on the form will be completed daily for each area and physical reference section sprayed. If the entire area and physical reference section is not sprayed the same day, the beginning and ending points and direction(s) will be listed under the LOCATION/REMARKS heading. When the entire area is completed, the report shall note "Cycle Completed."

d. Measurement and Payment. Bike path vegetation treatment will be measured in square feet of area properly treated. The contract pay item includes furnishing, mixing and applying the product.

Pay Item	**Pay Unit**
Non Selective Weed Spray Under Asphalt	Square Foot

CHEMICAL SPRAY CONTROL
INSPECTION REPORT

<table>
<tr><td>DATE:</td><td rowspan="2">ROUTE NUMBER:</td><td colspan="2">PHYSICAL REFERENCE #:</td><td colspan="3">COUNTY:</td></tr>
<tr><td>START TIME:

END TIME:</td><td colspan="2"></td><td colspan="3">TRUCK/SPRAY UNIT:</td></tr>
<tr><td rowspan="2">STARTING MILEAGE:</td><td rowspan="2">TRAVEL DIRECTION:</td><td rowspan="2">TOTAL SQ FEET:</td><td rowspan="2">SPRAY WIDTH: (FEET)</td><td rowspan="2">TOTAL SQUARE FEET:</td><td rowspan="2">LOAD NUMBER:</td></tr>
<tr><td>ENDING MILEAGE:</td></tr>
<tr><td colspan="2" rowspan="3">TYPE OF APPLICATION:
(circle one)

1. GUARDRAIL

2. WEED

3. BRUSH (foliar, basal, cut stump)

4. SHOULDER

5. OTHER</td><td colspan="3">TOTAL LITERS OF EMULSION USED:</td><td rowspan="3">WEATHER:
(circle one)

Clear
Cloudy
Partly Cloudy

WIND (mph)) and (direction)

TEMPERATURE:</td></tr>
<tr><td colspan="3">APPLICATION RATE per SQUARE METER:</td></tr>
<tr><td colspan="3">WATER SOURCE / LOCATION:</td></tr>
<tr><td colspan="6">TANK MIX:</td></tr>
<tr><td colspan="6">LOCATION/REMARKS:</td></tr>
<tr><td colspan="3">APPLICATOR’S NAME:
(print)

CERTIFICATION #</td><td colspan="3">APPLICATOR’S SIGNATURE</td></tr>
<tr><td colspan="6">EXPIRATION DATE:</td></tr>
</table>

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION FOR **BIORETENTION SOIL**

CON:SGI 816 1 of 3 08-12-23

a. Description. This work consists of providing and placing bioretention soil at the locations shown on the plans and as directed by the Engineer.

b. Materials. Furnish materials that meet the requirements of Division 9 of the Standard Specifications for Construction or as otherwise indicated:

1. Provide bioretention soil that is a blend of the following components by volume:

   A. 50% 2NS Sand

   B. 25% Topsoil

   C. 25% Compost

2. Soil Components.

   A. Sand. Provide 2NS Sand per the Standard Specifications.

   B. Topsoil.

      1) Topsoil must meet the following criteria: pH range between 5.5 and 7.5; soluble salts maximum 500 ppm; clay content between 5 and 10 percent; organic content between 5 and 30 percent (the organic and clay content for topsoil is determined by weight). Topsoil must be free from stones, roots, sticks or other extraneous material including viable plant parts of bermuda or quack grass, poison ivy and other noxious weeds.

   C. Compost.

      1) Provide compost that is mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include, but is not limited to: agricultural, food or industrial residuals; Class A biosolids as defined in the EPA CFR Title 40, Part 503; yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product must not possess objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids. The moisture level must be such that no visible water or dust is produced when handling the material.

2) Provide compost that meets the following criteria in Table 1:

Table 1: Compost Material Parameters

Parameter	Range	Testing Method
pH	5.5-8.5	TMECC 4.11-A
Soluble Salt Concentration	< 15 dS/m	TMECC 4.10-A
Moisture	35 – 65% wet weight basis	SMEWW 2540B
Organic Matter	25 – 65% dry weight basis	TMECC 5.07-A
Particle Size	100% pass thru ½" screen or smaller	TMECC 2.02-B
Stability (Carbon Dioxide evolution rate)	<4 mg CO2-C per g OM per day	TMECC 5.08-B
Maturity (seed emergence and seedling vigor)	80-100% seed emergence & vigor	TMECC 5.05-A
Physical contaminants (man-made inerts)	< 1% dry weight basis	TMECC 3.08-A
Chemical contaminants:	Meet or exceed US EPA Class A standard, 40CFR 503.13, Tables 1 and 3 levels:	
Arsenic	< 41 ppm	TMECC 4.06-AS
Cadmium	< 39 ppm	TMECC 4.06-CD
Copper	< 1500 ppm	TMECC 4.06-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.06-MO
Nickel	< 420 ppm	TMECC 4.06-NI
Selenium	< 100 ppm	TMECC 4.06-SE
Zinc	< 2800 ppm	TMECC 4.06-ZN
Biological contaminants (pathogens):	Meet or exceed US EPA Class A standard, 40CFR 503.32(a) levels:	
Fecal coliform	< 1000 MPN per gram, dry weight basis	TMECC 7.01
Salmonella	< 3 MPN per 4 grams, dry weight basis	TMECC 7.02

3. Submittals and Testing Certificates.

A. Submit source list for topsoil and compost at the preconstruction meeting.

B. A minimum of 14 days prior placement, submit a certified analysis to the Engineer for the topsoil and compost demonstrating that the material parameters outlined above for topsoil and compost have been met.

c. Construction.

1. Pre-Installation Examination and Preparation. Compost, topsoil, and sand must be inspected and approved by the Engineer prior to blending.

2. Bioretention soil must be produced by thoroughly mixing the required proportion of component materials prior to final placement. Blended bioretention soil must be inspected and approved by the Engineer prior to acceptance on the project. Bioretention soil will be placed at the rates described on the plans or as directed 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
Bioretention Soil	Cubic Yard

Bioretention Soil includes all labor, equipment and materials required to produce and place the material as described herein.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, MODIFIED

CON:SGI 816 1 of 3 08-06-23

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, hydroseed, hydromulch, or mulch blanket, high velocity mulch blanket and permanent turf reinforcement mat to those areas. Turf establishment must be in accordance with section 816 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 and application rates 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. The following materials must be used on this project:

1. Seeding mixture as called for on the plans.

2. Hydromulch shall be 100 percent wood fiber with a premium tackifier (preblended high viscosity organic polysaccharide).

3. Fertilizer, Chemical Nutrient, Class A.

4. Topsoil Surface, Furnished or Salvaged, 4 inch. Remove any stones greater than 1 inch in diameter or other debris from all topsoil.

5. Mulch Blanket and High Velocity Mulch Blanket.

6. 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:

Property	Test Method	Requirement
Mass/Unit Area	ASTM D 6566	10 oz/syd
Ultraviolet Stability @ 1000 hrs	ASTM D 4355	80 percent
Tensile Strength (MD)	ASTM D 6818	165 lbs/ft

Acceptance. Supply a Test Data Certification for the permanent TRM from one of the following manufacturers:

Recyclex - American Excelsior Co., Arlington, TX (800) 777-7645
P300 - North American Green, Poseyville, IN (800) 772-2040
Landlok 450 - Propex, Inc., Chattanooga, TN (800) 621-1273
PP5-10 - Western Excelsior, Mancos, CO (800) 833-8573

c. Construction. Construction methods must be 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 stated 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 assure all areas to be seeded are weed free prior to placing topsoil. Place topsoil to the minimum depth indicated above, to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, this additional depth must be filled using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work.

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

No hay will be allowed for use with slope restoration on this project.

Apply mulch at a rate of 2 tons per acre. Place Mulch Anchoring over the mulch at a rate specified in subsection 816.03.F of the Standard Specifications for Construction. Mulch Blanket and High Velocity Mulch Blanket must be placed in accordance with subsection 816.03.H of the Standard Specifications for Construction and as shown on Standard Plan R-100 Series.

Fertilizer cannot be applied to frozen soil or soil saturated with water. Any fertilizer released onto a hard surface, such as a sidewalk or driveway must be cleaned up promptly. Maintain at least a 15 foot application buffer from surface water (lake, river, stream). If a spreader guard, deflector shield, or drop spreader is used, then maintain at least a 3 foot buffer. If a continuous natural vegetative buffer separates the turf and surface water, then maintain at least a 10 foot buffer from the water.

Turf or lawn areas that soil tests, performed within the past three years by the Michigan State University Extension Service or other qualified or recognized authority in the area of soil analysis, confirm are below phosphorus levels established by the Michigan State University Extension Service. The lawn fertilizer application shall not contain an amount of phosphorus exceeding the amount and rate of application recommended in the soil test evaluation.

Areas constructed with the TRM must be installed on prepared (seeded) grades as shown on the plans in strict accordance with the manufacturer's published installation guidelines. The top edge of the TRM must be anchored in a minimum 6 inch deep trench. Operation of equipment on the slope will not be allowed after placement of the TRM. No credit for splices, overlaps, tucks or wasted material will be made.

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. This replacement will be paid for as additional work using the applicable contract items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at the Contractor's expense.

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

If the seeded turf is not well established, the Contractor is responsible to re-seed until the turf is well

established and approved by the Engineer at his own cost.

If weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, the Contractor must provide weed control in accordance with subsection 816.03.J of the Standard Specifications for Construction. Weed control will be at the Contractor's expense with no additional charges to the project.

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**
Slope Restoration, Modified	Square Yard

1. Place **Slope Restoration, Modified** in all areas and will be measured by area in square yards in place. **Slope Restoration, Modified** includes all labor, equipment and materials required to install Topsoil Surface, Furnished or Salvaged; Fertilizer, Chemical Nutrient, Class A; hydroseed mixture; hydromulch mixture; mulch blanket; high velocity mulch blanket; and turf reinforcement mat; which will not be paid for separately but is included in the contract unit price for **Slope Restoration, Modified**. Mulch Blanket shall be used in areas that have a 1 on 3 slope and in any ditch with a grade less than 1.5 percent, or as directed by the Engineer. High Velocity Mulch Blanket shall be used in areas that have a 1 on 2 slope, any ditch with a grade of 1.5 percent to 3 percent, or as directed by the Engineer. Turf Reinforcement Mat shall be used in areas that have a slope steeper than 1 on 2, any ditch with a grade steeper than 3 percent, or as directed by the Engineer. Hydroseed and Hydromulch will be used in all other areas.

Note: Areas where unsatisfactory grass growth is evident as determined by the Engineer prior to or during the Final Project Inspection, shall be re-worked, re-seeded, re-fertilized, and re-mulched to the satisfaction of the Engineer, at the Contractor's expense. The end product shall be well established, weed free, in a growing and vigorous condition, and shall contain the species called for in the seeding mixture.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
BENCH

CON:SGI 850 1 of 1 09-01-23

a. Description. This work consists of furnishing and installing benches including connection to concrete as shown in the plans.

b. Materials. The materials shall be in accordance with:

Belson Outdoors – Model #PB6-JAM with PB1178 (surface mount), 6-foot bench with one armrest. Powder coated steel frame with recycled plastic slats. Colors to be determined by Owner. Install only one armrest per bench.

Worthington Direct – Model #61146-GRA, Jameson Outdoor Bench (6' L) (surface mount), 6-foot bench. Powder coated steel frame with recycled plastic slats. Colors to be determined by Owner. Install only one armrest per bench.

Or approved equal

Hardware required to install benches shall be galvanized and is included.

c. Construction. Benches for this project shall use bolt down base plate installation in concrete. Benches shall be assembled and installed per manufacturer's instructions.

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**
Bench	Each

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
BOLLARD

CON:SGI 850 1 of 2 12-23-22

a. Description. This work consists of furnishing and installing bollards including: steel bollards, removable or folding bollard, footings, concrete slab, painting, reflective tape, locking device and appurtenances as shown in the plans. Grade, excavate and backfill as necessary to construct concrete slab and footings.

This work shall be done in accordance with sections 205, 602 and 810 of the Standard Specifications for Construction.

b. Materials. Provide materials that are in accordance with the requirements of sections 205, 602, and 810 of the Standard Specifications for Construction and/or as modified herein.

Concrete for path and footings shall be Grade S2 or P1 in accordance with section 602 of the Standard Specifications for Construction.

Steel posts and framing shall be primed with a rust and corrosion resistant, zinc rich primer with a minimum of 5,000 hour salt spray performance.

Steel posts for bollard coating shall be a high performance, multi-coat, surface tolerant epoxy coating. The surface preparation and dry film thickness are per manufacturer's instructions.

Ensure folding bollards have a 30-inch post height. Bollard will collapse with a 4-inch clearance. Ensure steel tubing meets ASTM A 500, and steel plate meets ASTM A 36. Ensure bollards lock in upright position with 18-8 stainless steel lock pin and padlock. Core padlocks for a standard park lock setting. Supply four coordinating keys to the Engineer.

Color shall match existing bollards on path and will not be standard color. Color shall be supplied to Owner for approval prior to ordering any materials.

Ensure hardware is stainless steel and vandal resistant. Provide owner(s) with any special tools needed for the vandal resistant hardware.

The Folding Bollards listed here are acceptable for this project. An alternate bollard may be submitted to the Engineer for approval, provided it meets all the requirements of this special provision and the detail in the plans.

Trafficguard Folding Bollard, model LPHDHB, single post 30-inch tall with 4-inch clearance height in down position or approved equal. Include locking device and reflective end markers. See drawings for details.

IdealShield Collapsible Locking Bollard, model PPP-04-042-CB, single post 42-inch tall with 4-inch clearance height in down position or approved equal. Include locking device and reflective end markers. See drawings for details.

Or approved equal.

Stationary Steel Bollards: 6-inch diameter steel sch. 40 pipe filled w/concrete, round off top of concrete. Use 2-#4 bars each way placed near the bottom of pipe as anchors in the concrete footing. Primer and 2 finish coats of paint shall be applied to the entire steel pipe. See drawings for details.

Ferrous Metals (FM) General Finish Specification
Surface Preparation: SSPC-SP1 Solvent Cleaning.
Primer: Apply one coat of an oil base primer.
Finish Coats: Apply two coats of an industrial urethane alkyd.

Submit shop drawings to the Engineer for approval a minimum of 14 days prior to ordering any materials.

c. Construction. Install bollards and foundations in accordance with section 810 of the Standard Specifications for Construction, per the manufacturer's recommendations, and as directed 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**
Bollard System	Each

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
EXISTING TRUSS, TRANSPORT AND INSTALL

CON:SGI 850 1 of 2 12-02-24

a. Description. This work consists of rigging, transporting the rehabilitated two span Pratt through truss bridge from the staging location designated on the plans and installing on new substructures at the Bailey Bridge at Smiths Crossing Road over the Tittabawassee River in Midland County. This structure is listed on the National Register of Historic Places.

The work shall also include preparation of the staging area to receive the trusses for rehabilitation and restoration of the staging area to its original condition.

b. Materials. Material as noted on the plans shall be in accordance with applicable section of the Standard Specifications for Construction.

Do not use material intended for use in the finished structure for temporary purposes.

c. Construction. Construction shall be in accordance with applicable sections of the Standard Specifications for Construction, as shown on the plans and as specified herein.

At least six weeks before transport of the rehabilitated truss spans, the Contractor shall deliver plans showing his procedure to the Engineer for review. These plans shall be sealed by a Professional Engineer licensed in the State of Michigan and shall provide details of rigging, transporting, and installation of the truss spans on the new substructures.

The truss spans shall be transported and installed in such a manner as not to damage any work or material which is a part of the final structure. The two truss spans shall be lifted and transported using procedures which do not cause compression in the tension members. Temporary bracing of members shall be installed as necessary during handling and transporting to prevent damage to all parts of the existing bridge.

The Contractor is responsible for rigging and stabilizing the truss during transport. The Contractor shall ensure that axle loads are legal loads or the Contractor shall obtain special use permits for transporting along the roads. The Contractor shall be responsible for traffic control during bridge relocation.

The Contractor shall contact and coordinate with the Road Commission and utility companies and compensate utility owners for all expenses to temporarily move the utilities along the transport route. See Special Provision for Utility Work for further information.

The Contractor shall be responsible for the engineering costs for any temporary connections, lifting for removal, transportation and setting the trusses on the new substructure 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 item:

Pay Item	Pay Unit
Existing Truss, Transport and Install	Lump Sum

Existing Truss, Transport and Install includes all labor, equipment and materials required for engineering of the truss temporary supports, rigging and lifting of the trusses, transport and installing the trusses on the new substructures as shown on the plans. This pay item also includes any fencing, protection, and earthwork necessary to prepare the staging area to receive the trusses and to restore the area back to its original condition.

Traffic Control during truss transport will be paid for separately.

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
WOOD DECK

CON:SGI 850 1 of 1 08-12-23

a. Description. This work consists of furnishing all labor and material in order to install the wood bridge decking as shown on the plans.

b. Materials. Wood decking shall be clear White Oak, free of defects, with the exception of pin knots less than 1/2 inch in diameter will be acceptable. Decking shall have a maximum moisture content of 19 percent.

Planks shall be full sawn 3 inch x 8 inch S4S (surfaced 4 sides), E4E (eased 4 edges) lumber.

Naturally durable hardwood shall provide design values equal to or exceeding the following:

1200 psi Allowable Bending, Fb
$1.1x10^6$ psi Modulus of elasticity, E

Preservation Treatment: The White Oak shall be untreated.

c. Construction. Construction shall be in accordance with section 709 of the Standard Specifications for Construction except as modified herein.

Protection in Transit: A coat of end sealer shall be applied to ends of all members as soon as practicable after end trimming. Members shall be protected until installed.

Field Storage and Handling: If stored temporarily at the job site after arrival, members shall be placed on blocking, well off the ground and be separated by wood blocking so air can circulate around each member. Place water resistance paper over the top but do not use opaque polyethylene.

Butt Joints, if used, must be placed over supports and must be staggered a minimum of 3 feet apart for adjacent planks.

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**
Wood Deck	Square Foot

Wood Deck includes all labor and material for furnishing and installing the wood deck including all hardware and fasteners as shown on the plans.

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 of 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 sublot. The sampling frequency for a production lot is one QA sample per sublot.

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 = (QA Test Strength)/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 (PFac)
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:

$OLPF = (0.60 \times PF_s) + (0.40 \times PF_{ac})$

Where:

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

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

ADJ = (OLPF - 1)(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:

$(ADJ) = (PF_s - 1)(Price)$

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:JJG 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
NON-COMPLIANCE WITH CONTRACT REQUIREMENTS

CFS:LLR 1 of 2 APPR:JJG:LFS:05-23-23
FHWA:APPR:06-15-23

Delete subsection 102.19, on page 1-31 of the Standard Specifications for Construction, in its entirety and replace with the following:

102.19. Contract Non-Compliance

The Engineer will issue non-compliance notices (form 1165) to the Contractor when contract requirements have not been met. Non-compliance notices may be issued at any time during the course of the contract. Notices of non-compliance may include, but are not limited to, the following criteria.

A. Jobsite Safety

B. Prevailing Wage

C. Subcontract

D. Prompt Payment

E. Disadvantaged Business Enterprise

F. Soil Erosion and Sedimentation Control

G. Plans and Specifications

H. Prosecution and Progress

I. Submittals (material testing, certifications, shop drawings, etc.)

J. Work Zone Safety and Mobility

Non-compliance notices may be used as a basis for modifying the prequalification ratings of the Contractor and any tier subcontractor. Any action to modify the Contractor's prequalification ratings will be taken in accordance with the duly promulgated administrative rules for prequalification.

If a Contractor and or any tier subcontractor fails to honor a request by the Engineer to submit a performance improvement plan or to meet to discuss the plan, or if a Contractor or subcontractor at any tier fails to carry out an approved performance improvement plan, that failure may be used as a basis for modifying the prequalification ratings of the Contractor or subcontractor at any tier as applicable. Any action to modify the

Contractor’s prequalification ratings will be taken in accordance with the duly promulgated administrative rules for prequalification.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SUBLETTING CONTRACT WORK TO DISADVANTAGED BUSINESS ENTERPRISES

CSD:LFS 1 of 2 APPR:KMF:LST:11-09-23
FHWA:APPR:11-13-23

Replace subsection 102.17 on page 1-30, of the Standard Specifications for Construction, in its entirety and replace with the following:

102.17. Subletting Contract Work to Disadvantaged Business Enterprises (DBEs)

The DBE participation goal specified in the notice of advertisement must be made available to certified DBEs. Compliance with the designated DBE participation goal must be met by using DBEs to perform commercially useful functions as required by 49 CFR 26.55.

A. **Pre-Award.** All Bidders must provide the overall DBE percentage they have attained at time of bid within the DBE goal tab of the bid file on all projects with a DBE goal designation. All Bidders must submit MDOT Forms 2653 *Contractor Good Faith Efforts* and 2653D *Commitment Confirmation for DBE Subcontractors* within 5 calendar days of the bid letting. These forms must be submitted whether or not the Bidders have been able to meet the DBE participation goal. Submit these forms by e-mail to MDOT-DBESheets@Michigan.gov.

A Bidder who fails to meet the submittal requirements for DBE participation will be deemed ineligible for award of the contract. If a Bidder fails to achieve the DBE participation goal set for a contract, the Department will evaluate the efforts of all Bidders to determine eligibility for award.

B. **Post Award.** If the Contractor determines during construction that the approved the DBE participation goal will not be met, the Contractor must submit updated MDOT Forms 2653 and 2653D to MDOT-GFE@michigan.gov within 7 calendar days in accordance with current Department DBE Program Procedures.

Prime Contractors may not terminate for convenience an approved DBE working on a federally assisted contract and then perform the work of the terminated DBE.

The Contractor must notify the Department immediately of a DBE's inability to perform any of its work and the Contractor's intent to obtain a substitute DBE by filling out MDOT Form 0196 (DBE Removal/Substitution Request).

C. **Reconsideration.** Bidders whose Good Faith Efforts (GFE) have been found insufficient may have their GFE reconsidered in accordance with current Department DBE Program Procedures.

The Department reserves the right to modify any requirement or shorten any time period when the need to place the project under contract is such that the public interest warrants such action and would be impaired by further delay. If the Department waives any of these requirements, except the length of a time period, it will ensure that no Bidder is given a material competitive advantage by these actions.

D. **Reports.** The Contractor is required to submit payments to subcontractors and all DBEs on the project in the MDOT 2124A Employment Reporting System (MERS) to the Engineer in accordance with the contract.

E. **Penalties.** Failure to fulfill the DBE subcontracting requirement may be considered a breach of contract and may result in the Department's exercising the rights and remedies available in accordance with the provisions of the contract. Remedies may also include suspension, reduction, or removal of the Contractor's prequalification as stated in the Administrative Rules Governing the Prequalification of Construction Contractors.

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.

(Cost of Deleted Work) - (Cost of Added Work) = Net Savings

Payment = (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/mdot/-/media/Project/Websites/MDOT/Business/Construction/Standard-Specifications-Construction/CFS-Reference/Contractor_Standard_Naming_Conventions_for_Document_Submittals.pdf?rev=424a3c749de244b9a6470397d71da3b4&hash=CA381F5631F2FE20E7CC65BD1F2BC6FB

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:JJG 1 of 2 APPR:LLR:KAS:10-19-23
FHWA:APPR:10-20-23

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 are 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 steel and/or iron must comply with this

special provision.

Predominately iron and/or steel means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, sheet, etc.), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

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 2 APPR:LLR:KAS:10-19-23
FHWA:APPR:10-26-23

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 are produced in the United States.

The manufacturing processes for each construction material are described as follows and 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; all manufacturing processes means melting through final shaping, coating, and assembly;

B. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form;

C. Glass (including optic glass); all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting;

D. Lumber; all manufacturing processes, from initial debarking through treatment and planing; or

E. Drywall; all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels.

F. Fiber Optic Cable (including drop cable); all manufacturing processes, from the ribboning (if applicable), through buffering, fiber stranding and jacketing. All manufacturing processes also include the standards for glass and optical fiber, but not for nonferrous metals, plastic and polymer-based products, or any others;

G. Optical Fiber; all manufacturing processes, from the initial preform fabrication stage through the completion of the draw;

H. Engineered Wood; all manufacturing processes, from initial debarking through pressing, trimming, and sanding of glued sheets or boards;

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 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.

Predominately iron and/or steel means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, sheet, etc.), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

The following items do not fall under the Construction Material category of Materials; cement and cementitious materials; asphalt cements; aggregates such as stone, sand, or gravel; and aggregate binding agents or additives. These Materials 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, meaning all manufacturing processes as noted above occurred in the United States.

The above requirements do not preclude a minimal use of foreign construction materials provided the total invoice cost of foreign construction materials permanently incorporated into the project does not exceed the lesser of $1,000,000 or 5.0 percent of the total applicable costs. The Department defines the total applicable costs as the cost of materials (including the cost of any manufactured products) used in the project that are subject to a domestic preference requirement.

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
E-VERIFY

CSD:LFS 1 of 1 APPR:JJG:RJC:10-19-23
FHWA:APPR:10-31-23

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.

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:CR 1 of 3 APPR:KK:LLR:01-23-24
FHWA:APPR:01-25-24

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.

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. Prevailing Wage Law.

A. 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 and the revisions within the *2023 Final Rule: "Updating the Davis-Bacon and Related Acts Regulations"*.

B. State Prevailing Wage Projects. Michigan Prevailing Wage, P.A. 10 of 2023 applies to all contractors, and subcontractors (all tiers) performing work on contracts which are sponsored or financed in whole by the State of Michigan. On contracts involving two or more job numbers where the type of funding is mixed, and where one source of funding is federal, the Department inserts only the wage rates issued by the U.S. Department of Labor in the proposal and the federal requirements apply.

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.

3. Certified Payroll Submittal Requirements. Contractors (all tiers) must submit their certified payrolls and any wage related documentation to the prime Contractor in accordance with the Special Provision for Prevailing Wage and Labor Compliance System 20SP-104D. Submitted payrolls must accurately and completely include all information required by the prevailing wage and labor compliance (PWLC) system. 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. 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.

A. 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.

B. Delinquent Payroll. Certified payrolls not submitted per subsection b.3 of this special provision will be considered delinquent.

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

D. 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.	

4. Record Keeping. Maintain payrolls and basic records relating thereto (i.e. employee names, social security numbers, last known address, telephone numbers, email addresses, occupation and hours worked for each worker; W2s, 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.

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

A. 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
FEDERAL AVIATION ADMINISTRATION NOTIFICATION FOR STRUCTURE WORK

BRG:BMW 1 of 1 APPR:JAB:JD:04-02-20
FHWA:APPR:04-03-20

a. Description. This work consists of obtaining any necessary permits and notifying the Federal Aviation Administration (FAA) and/or local airport zoning authority if any permanent structures or temporary structures (temporary scaffolding, forms, poles, crane booms, etc.) exceed the requirements listed in this special provision, no matter the duration.

A copy of any permits (FAA, Michigan Tall Structure and local or municipal airport zoning) obtained by the Department are included in the contract.

b. Materials. None specified.

c. Construction. The Contractor is required to provide notice to the FAA, and acquire any necessary permits, if the proposed construction or alteration of permanent or temporary structures meets any of the following criteria:

1. Anything over 200 feet above ground level (AGL) at the project site, including temporary construction and/or equipment.

2. Any changes or variations that exceed the heights or locations set forth in the permits, if permits are included in the contract.

3. Any changes or variations that exceed the height set forth on the contract plans, if permits are not included in the contract.

Schedule operations to allow for the maximum 45 day FAA review period. Extensions of time will not be granted for failure to submit the FAA notifications 45 days prior to commencement of construction activities subject to notification requirements.

d. Measurement and Payment. This work will not be paid for separately, but will be included in costs for other pay items in the contract. Payment for any/all FAA required safety equipment, obstruction lighting, flags, nighttime crane procedures, etc. will also be considered to be included in the costs for 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:JJG 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-HAZARDOUS CONTAMINATED MATERIAL HANDLING AND DISPOSAL

ENV:JCW 1 of 2 APPR:DMG:DBP:02-26-20
FHWA:APPR:03-02-20

a. Description. This work consists of handling, transporting, disposing of non-hazardous contaminated material, including all laboratory testing required for the proper disposal of the material and site restoration of temporary storage locations. Ensure this special provision is not employed without authorization by the Engineer. The laboratory testing will be used to solicit landfill approval and is not intended to determine whether or not the material is contaminated. Soil delineated on the plans and classified as non-hazardous contaminated cannot be used elsewhere on the project regardless of the laboratory test results unless otherwise directed by the Engineer.

b. Materials. None specified.

c. Construction. Complete this work in accordance with sections 204 and 205 of the Standard Specifications for Construction, except as modified herein or as directed by the Engineer.

1. Excavation of Non-hazardous Contaminated Material. Excavate non-hazardous contaminated material as shown on the plans or as directed by the Engineer.

2. Temporary Storage of Non-hazardous Contaminated Material. Place excavated non-hazardous contaminated material which is to be temporarily stockpiled on plastic sheeting or tarps having a minimum thickness of 6 mils or in trucks, roll off boxes, or other containers, such that no liquid may escape from the containment. Cover the non-hazardous contaminated material securely with plastic sheeting of 6 mils thickness or greater at the end of each work day.

Dispose of excavated non-hazardous contaminated material as soon as approval is received from the disposal site. This material cannot be stockpiled for longer than 30 days prior to disposal.

Restore temporary storage locations to the condition prior to conducting the work.

3. Sampling and Analysis of Non-hazardous Contaminated Material. Sample and analyze non-hazardous contaminated material prior to disposal. The analysis required is dictated by the Type II disposal facility to be utilized for disposal. Should the results of the analysis show the material to be hazardous waste, as defined by the 1994 PA 451, Part 111, of the Natural Resources and Environmental Protection Act, notify the Engineer immediately. The material must then be disposed of as directed by the Engineer.

4. Disposal of Non-hazardous Contaminated Material. Dispose of non-hazardous contaminated material at a licensed Type II sanitary landfill. Submit at the preconstruction

meeting the name of the Type II landfill to be used for disposal, the sampling and analysis requirements of that landfill, and verification that use of the proposed landfill will meet the requirements of the county solid waste plan.

Ensure the proposed landfill is acceptable to the Department and approval is obtained from the Engineer prior to commencing disposal operations. Provide a copy of the laboratory analysis to the Engineer as a requirement of approval for disposal. Following disposal and prior to approval for payment provide to the Engineer landfill receipts for all non-hazardous contaminated material disposed of.

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**
Non Haz Contaminated Material Handling and Disposal, LM	Cubic Yard

Non Haz Contaminated Material Handling and Disposal, LM will be measured by volume in cubic yards, LM. Provide to the Engineer receipts from the disposal facility for the number of cubic yards disposed of at that facility prior to payment. Payment will include all costs for materials, labor and equipment needed for storage, loading, transportation, testing, restoration of temporary storage locations and disposal of the non-hazardous contaminated material. Disposal costs will include all documentation required by the landfill.

Payment for excavation of non-hazardous contaminated material will be included with the related items of work.

Delays in testing and disposal of non-hazardous contaminated material that are not the fault of the Contractor may be considered valid reasons for extension of time. However, these delays and the resultant extensions of time will not be considered valid reasons for additional payment.

Should the analysis of the material document that it is hazardous waste, then payment for disposal of hazardous waste will be measured and paid for as extra work. Disposal includes hauling by a licensed hazardous waste hauler and disposal at an appropriate licensed disposal facility. Prequalification is waived.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TWELVE-INCH LAYER METHOD

CFS:LLR 1 of 1 APPR:DMG:KK:02-16-24
FHWA:APPR:02-20-24

Delete subsection 205.03.H.4.b, on page 2-26 of the Standard Specifications for Construction, in its entirety.

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 (≥ 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
MARSHALL HOT MIX ASPHALT MIXTURE

CFS:JWB 1 of 2 APPR:KPK:CJB:03-04-20
FHWA:APPR:03-13-20

a. Description. This work consists of furnishing a hot mix asphalt (HMA) mixture, designed using Marshall Mixture Design Methods, in accordance with the standard specifications except as modified by this special provision.

b. Mix Design. Submit the mix design for evaluation in accordance with the Department's *HMA Production Manual*. Use a 50 blow Marshall hammer when compacting mixtures for developing Marshall mix designs.

c. Recycled Mixtures. Substituting reclaimed asphalt pavement (RAP) for a portion of the new material required to produce the HMA mixture is allowed provided that the mixture is designed and produced to meet all criteria specified herein, unless otherwise prohibited. Ensure RAP materials are in accordance with the standard specifications.

d. Materials. Table 1 provides the mix design criteria and volumetric properties. Table 2 provides the required aggregate properties. Use aggregates of the highest quality available to meet the minimum specifications. Use the mixture designation number shown in the pay item name when determining mix design properties from Tables 1 and 2.

e. 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**
HMA, (type)	Ton

Table 1: Mix Design Criteria and Volumetric Properties

	Mixture No.				
	2C	3C	4C	13A	36A
Target Air Void, % (a)	3.00	4.00	4.00	4.00	4.00
VMA (min) (b)	11.00	13.00	14.00	14.00	15.00
VFA	65-78	65-78	65-78	65-78	65-78
Fines to Binder Ratio (max) (c)	1.2	1.2	1.2	1.2	1.2
Flow (0.01 inch)	8-16	8-16	8-16	8-16	8-16
Stability (min), lbs	1200	1200	1200	900	900

a. Lower target air voids by 1.00% if used in a separate shoulder paving operation. Consider reducing air void targets to 3.00% for lower traffic volume roadways when designing 13A and 36A mixtures for local agency use.
b. VMA calculated using Gsb of the combined aggregates.
c. Ratio of the weight of aggregate passing the No. 200 sieve to total asphalt binder content by weight; including fines and binder contributed by RAP.

Table 2: Aggregate Properties

	Mixture No.				
	2C	3C	4C	13A	36A
	Percent Passing Indicated Sieve or Property Limit				
1½ inch	100				
1 inch	91-100	100			
3/4 inch	90 max.	91-100	100	100	
1/2 inch	78 max.	90 max.	91-100	75-95	100
3/8 inch	70 max.	77 max.	90 max.	60-90	92-100
No. 4	52 max.	57 max.	67 max.	45-80	65-90
No. 8	15-40	15-45	15-52	30-65	55-75
No. 16	30 max.	33 max.	37 max.	20-50	
No. 30	22 max.	25 max.	27 max.	15-40	25-45
No. 50	17 max.	19 max.	20 max.	10-25	
No. 100	15 max.	15 max.	15 max.	5-15	
No. 200	3-6	3-6	3-6	3-6	3-10
Crushed (min), % (MTM 117)	90	90	90	25	60
Soft Particle (max), % (a)	12.0	12.0	8.0	8.0	8.0
Angularity Index (min) (b)	4.0	4.0	4.0	2.5	3.0
L.A. Abrasion (max), % loss (c)	40	40	40	40	40
Sand Ratio (max) (d)	-	-	-	50	50

a. The sum of the shale, siltstone, structurally weak, and clay-ironstone particles must not exceed 8.0 percent for aggregates used in top course. The sum of the shale, siltstone, structurally weak, and clay-ironstone particles must not exceed 12.0 percent for aggregates used in base and leveling courses.
b. The fine aggregate angularity of blended aggregates, determined by MTM 118, must meet the minimum requirement. In mixtures containing RAP, the required minimum fine aggregate angularity must be met by the virgin material. NAA fine aggregate angularity must be reported for information only and must include the fine material contributed by RAP if present in the mixture.
c. Los Angeles abrasion maximum loss must be met for the composite mixture, however, each individual aggregate must be less than 50
d. Sand ratio for 13A and 36A no more than 50% of the material passing the No. 4 sieve is allowed to pass the No. 30 Sieve.

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 calendars 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 Contractors 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
QUALITY CONTROL PLAN FOR WELDING PILE SPLICES

STR:MJF 1 of 2 APPR:POJ:JAB:04-28-20
FHWA:APPR:05-05-20

a. Description. This work consists of providing and maintaining a quality control plan (QCP) for welding non-main member pile splices to produce welds that meet *American Welding Society (AWS) D1.1, Structural Welding Code - Steel* (as modified by the current FUSP 20SP-707A - Structural Steel and Aluminum Construction), hereafter called *AWS D1.1*. Perform quality control (QC) inspection in accordance with the QCP during all phases of the welding. Ensure the QCP is in accordance with the contract and specifications herein.

Main member piles do not require a QCP, but do require an AASHTO/AWS D1.5 Field Welding Plan (form 0395) to be submitted to the Engineer for review and approval.

b. Quality Control Plan. Provide a Pile Welding Quality Control Plan (form 5627) to the Engineer for review and approval a minimum of 10 working days before the start of pile driving. The Engineer will provide approval, objections, or revisions to the proposed QCP within 5 working days of receipt of the QCP. Do not hold a pre-welding meeting or begin welding of pile splices before approval of the QCP by the Engineer.

The QCP must state the scope of work and list all methods, procedures, personnel, equipment, supplies, and facilities necessary to ensure the welded pile splices meet the contract requirements. Ensure the QCP is administered by a QC Manager that is a full-time employee or a contracted consultant. See QC Manager requirements in subsection c. of this special provision.

All QC test reports and splicing records must include the pile location (substructure unit) and pile number (based off the plans). Failure to provide proper documents for QC will be justification for withholding acceptance for the welded pile splices, or as a basis for non-payment.

c. QC Manager and Pile Welder Requirements. The QC Manager is defined as the individual administering the QCP. Ensure the QC Manager is an AWS Certified Weld Inspector (CWI) or a welder endorsed through MDOT's Welder Certification Program or MDOT's Welder Qualification Program. Ensure the QC Manager has clearly defined authority and responsibility to take all actions necessary for the successful implementation of the QCP, including but not limited to the QC acceptance and rejection of welds, and prescription of corrective measures to ensure welds meet the contract requirements.

Submit the welder's qualification records that show they meet AWS qualification requirements and are endorsed by MDOT with the QCP. Please see the MDOT Welder Certification Program and the MDOT Welder Qualification Program for more information.

d. Pre-Welding Meeting. Hold a pre-welding meeting to discuss the QCP in detail including roles and responsibilities of all QC staff. All staff (QC and production) listed on the QCP must attend the meeting and record their name in a sign in sheet. Notify the Engineer of the meeting

date, time, location, and provide a call-in number for Department personnel not able to attend the meeting.

e. Non-Destructive Testing (NDT) Inspection. Ensure all welds are visual test (VT) inspected and accepted by the QC Manager. Penetrant testing (PT) inspection is required for complete joint penetration welds with cope holes. The welder is permitted to perform the QC inspection after each weld pass (during welding inspection as defined in form 5627). If corrective action is required, the QC Manager must inspect and accept the repaired weld.

f. Quality Assurance Testing. The Engineer will periodically inspect welded splices and may perform NDT or require the Contractor to perform other NDT on welds not inspected in accordance with the approved QCP. If the additional NDT identifies rejectable defects then all costs associated with repairing the weld, retesting the weld using the same NDT that found the defect, and the cost associated with the initial test that found the defect will be at no cost to the Department. If the QCP is not followed or welds with defects are accepted by the QC inspection, then an AWS CWI must inspect and accept all welded pile splices for the remainder of the project at no cost to the Department.

g. Pile Welding QCP Template and Records. Maintain complete QC records documenting the required acceptance criteria have been met including pre-welding, during welding, post-welding, corrective repairs, and final acceptance. These records must indicate what action was taken to correct deficient welds when inspection indicates defective welds. Ensure the QC records are furnished to the Engineer within 24 hours after the date covered by the record in a portable document format (PDF) file.

Submit QCP's and pile welding records using the following MDOT Forms:

1. Pile Welding Quality Control Plan (Form 5627);

2. Pile Welding Splice Record (Form 5628); and

3. Pile Welding Corrective Action Record (Form 5629).

h. Measurement and Payment. All costs associated with providing and maintaining an effective QCP will be included in the piling pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
STRUCTURAL STEEL AND ALUMINUM CONSTRUCTION

STR:MJF 1 of 5 APPR:SCK:REL:07-31-23
FHWA:APPR:09-01-23

a. Description. This special provision specifies the AWS Code year and associated revisions to the Code to be used for the project.

b. ***AASHTO/AWS D1.5M/D1.5:2020, Bridge Welding Code*** (hereafter called *AWS D1.5*). Fabrication of bridge main and secondary members specified in subsection 707.01.A of the Standard Specifications or other contract documents must be performed in accordance with *AWS D1.5* as modified herein:

4.8.8: Add the following sentence to the end of the existing paragraph:

An exception to this is for the case of a sole plate welded to the bottom flange of a beam or girder or a cross frame member welded to a connection plate or another cross frame member. In this case the welds must be continuous as shown on the contract drawings with corners ground to eliminate notches greater than 0.01 inch. Provide a smooth transition from the weld metal and base metal after grinding.

5.1.3: Change "...when the ambient temperature is lower than -20°C [0°F]..." to read "...when the ambient temperature is lower than 5 °C [40 °F]...".

5.2.1: Add the following sentence to the end of the paragraph:

All edges whether welded or not must be conditioned by very shallow grinding to remove the hardened layer left by resolidification.

5.2.3: Delete the existing paragraph in its entirety and replace with the following sentence:

Scale and Rust. All mill scale and rust must be removed from the surfaces to be welded within 25 mm [1 in] of the weld.

5.13.3: Delete the existing paragraph in its entirety and replace with the following sentence:

Steel backing on welds must be removed and the joint must be finished smooth, unless otherwise directed by the Engineer.

5.13.6: Delete the word “copper” from the first sentence in the first paragraph and delete the second paragraph in its entirety.

6.1.4.1: Add the following sentence to the existing paragraph:

A filler metal log sheet must be available at all times for the Engineer to review.

6.2: Add the following sentence as a new paragraph:

Cooling welds using compressed air or water is not permitted.

6.2.2: Add the following sentence:

For AASHTO M270 Grade 36, 50, 50W, and HPS 50W, the maximum preheat and interpass temperature must be 345 °C [650 °F] for all thicknesses.

6.2.5: Delete the word “-20°C [0°F]” in this subclause and replace with 5 °C [40 °F].

Table 7.11: In the table under "1. Test on Plate" in the “Type of Weld” column, delete the “Fillet Option No. 2” and accompanying referenced Figure 7.22.

7.13: Delete the subclause in its entirety.

7.14: Delete the subclause in its entirety.

7.23.1.5: Delete the existing paragraph in its entirety and replace with the following paragraph:

Plug Weld Qualification Tests for Plug Welds Only. The joint must consist of a hole diameter the same size as that used in production in a plate the same thickness as that being welded. Backing must be of the same thickness and material as that to be used in production. In addition, Ultrasonic Testing (UT) inspection is required for plug weld qualification and must meet the requirements shown in Table 8.4. Conduct macroetch test according to subclause 7.27.6.2.

7.23.2.4(2)(b): Delete this subclause and accompanying referenced Figure 7.27.

7.27.1: In this subclause add the following requirements for visual inspection to the existing paragraph:

Discontinuities must not exceed 1/8 inch measured in any direction on the surface. Summation of all discontinuities exceeding 1/32 inch must not exceed 3/8 inch.

7.27.6.1: In this subclause add the following requirements to the existing requirements:

(7) Discontinuities must not exceed 1/8 inch measured in any direction on the surface.

(8) Summation of all discontinuities exceeding 1/32 inch must not exceed 3/8 inch.

8.3.1: Add the following sentence to the existing paragraph:

All WPSs are required to be approved by the Engineer prior to welding.

8.5.8: Add the following at the end of the existing paragraph:

Inspection and NDT records must contain at least the content and information shown in the sample forms of Annex N.

8.6.5: Add the following at the end of the existing paragraph:

Similarly, if such testing should disclose any deficiencies which require repair work, all costs associated with the original NDT and in addition to subsequent NDT for the repairs must be paid for by the Contractor.

8.7.7: Add the following at the end of the existing paragraph:

PT inspection must be performed at the ends of all CJP (butt, corner, and T) weld terminations for main members.

8.7.8: Remove reference to the prod method.

8.7.10: Delete the existing paragraph in its entirety and replace with the following sentence:

Phased-array UT (PAUT) in accordance with the current MDOT PAUT Program document may be substituted for RT of complete joint penetration groove welds in butt joints.

8.19.8: Remove reference to Table 8.5.

8.20.1: Add the following at the end of the existing paragraph:

All discontinuities found by UT must be recorded on the NDT report.

8.26.2.1: In the first sentence, change "For welds subject to tensile stress under any condition of loading..." to read "For all welds under any condition of loading...".

8.26.2.2: Delete the subclause in its entirety.

8.26.3.1(1): Change "Welds subject to tensile stress under any condition of loading..." to read "Welds under any condition of loading...".

8.26.3.1(2): Delete this subclause in its entirety.

8.26.3.3: Change “Table 8.5” to “Table 8.4”.

8.26.3.3(2): Delete this subclause in its entirety.

12.6.4.1: Add the following to the paragraph:

Electrodes for SMAW must be E7018, E8018, E9018, E10018, and E11018.

12.16.5.1: Add the following sentence to the existing paragraph:

Inspection and NDT records must contain at least the content and information shown in the sample forms of Annex N.

12.18: Add this subclause to the code:

The Contractor must provide documentation of all visual and NDT for timely review and confirmation by the Engineer prior to the weldment being covered.

Table 12.3: Delete Note a.

c. ***AWS D1.1/D1.1M:2020, Structural Welding Code - Steel*** (hereafter called *AWS D1.1*). Fabrication of structural steel elements specified in subsection 707.03.D.10.b of the Standard Specifications or other contract documents must be performed in accordance *AWS D1.1* as modified herein.

Tubular fracture critical members must follow clause 12 of AWS D1.5 and specific provisions stipulated in the *AASHTO LRFD Guide Specification for Design of Pedestrian Bridges*.

5.7.3: Delete this subclause in its entirety and eliminate all references within *AWS D1.1* to alternate methods for establishing minimum preheat and interpass temperatures.

5.8.1.1: Delete the existing subclause in its entirety and replace with the following paragraph:

The progression for all passes in the vertical position must be upward including repairs.

6.2.1.3: Delete the existing subclause in its entirety and replace with the following paragraph:

Charpy impact tests and all weld metal tensile tests are required for all groove weld procedure test plates. Additional plate lengths are required for these tests. This requirement is for all steels greater than ½ inch in thickness, used for structural supports for highway signs, luminaires, and traffic signals, that are main load carrying tension members. Specimens tested for impact values must have a minimum value of 20 ft-lb at -20 °C [0 °F]. All weld tensile specimens must have values not less than those shown in Table 5.1 with elongation in 2-inch gage length not less than 22 percent.

Table 6.11: In the table under the Type of Test Weld column, delete the Fillet Option 2 and accompanying referenced Figure 6.22.

6.22.3: Delete this subclause in its entirety and replace with subclause 7.23.1.5 of *AWS D1.5*.

6.22.2.1: Delete this subclause in its entirety and replace with subclause 7.23.1.5 of *AWS D1.5*.

6.23.2.2(3)(c): Change "...in excess of 1/4 in [6 mm] total..." to read "...in excess of 1/8 inch [3 mm] total...".

7.11.2(1): In this subclause change "...when the ambient temperature is lower than 0°F [-20°C]..." to read "...when the ambient temperature is lower than 40 °F [5 °C]...".

7.25: Add the following sentences to the end of the existing paragraph:

Written weld repair procedures must be approved by the Engineer prior to any weld repairs.

8.1: Delete this subclause in its entirety and replace with subclause 8.1 of *AWS D1.5*.

8.3.3: Add the following sentence to the end of the existing paragraph:

Approved weld procedures must be posted where work and welding are being performed.

8.5.4: Add the following sentence to the end of the existing paragraph:

Inspection and NDT records must contain at least the content and information shown in the sample forms of Annex J.

8.6.5: Delete this subclause in its entirety and replace with subclause 8.6.5 of *AWS D1.5*.

8.12.2.1: In the title of this subclause, change "Cyclically Loaded Nontubular Connections in Tension" to read "Cyclically Loaded Nontubular Connections".

8.12.2.2 & Figure 8.3: Delete this subclause in its entirety and referenced Figure 8.3. See subclause 8.12.2.1 as modified herein.

8.13.2(1): Change "Welds subject to tensile stress under any condition of loading..." to read "All welds under any condition of loading...".

8.13.2(2) & Table 8.2: Delete this subclause in its entirety and referenced Table 8.2. See subclause 8.13.2(1) as modified herein.

8.19.2: In the third sentence of the paragraph, replace the word “painted” with the word “coated”.

8.25.3: Replace the word “paint” with “coating”.

10.14.4.1(3)(f): Change "exceed 1/4 in [6 mm]" to read "exceed 1/8 inch [3 mm]".

d. ***AWS D1.2/D1.2M:2014, Structural Welding Code – Aluminum*** (hereafter referred to as *AWS D1.2*). Fabrication of structural aluminum must be performed in accordance with *AWS D1.2*.

3.5.3: Delete this subsection in its entirety.

3.11: Delete this subsection in its entirety.

3.21.6.3: Delete this subsection in its entirety and replace with the sentence:

RT must not be used in lieu of the bend test for qualification testing of welders or welding operators.

5.6.5: Delete this subsection in its entirety and replace it with subclause 8.6.5 of *AWS D1.5*.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PROVIDING EXPOSURE ASSESSMENTS, EXPOSURE MONITORING, EQUIPMENT, HYGIENE FACILITIES, AND TRAINING

STR:JAB 1 of 3 APPR:JDG:EMB:03-31-20
FHWA:APPR:04-03-20

a. Description. This work consists of providing exposure assessments, exposure monitoring, equipment, hygiene facilities, and training as required by Part 603 Lead Exposure in Construction, of the MIOSHA, to all of the Contractor's employees, FHWA employees, MDOT employees (including consultants), and to employees of Local Agencies who are acting as inspectors or project managers on any bridge painting projects or on any bridge repair or removal projects where welding, burning, or abrasive blasting of structural steel is being performed. This also applies to all construction work where an employee may be occupationally exposed to lead. All FHWA employees, MDOT employees (including consultants), and employees of Local Agencies who are acting as inspectors or project managers must have a medical evaluation, including a pulmonary function test, to determine the employee's ability to wear a respirator prior to receiving Contractor provided exposure training. The Contractor is responsible for requiring their employees to wear equipment and to use facilities provided by the Contractor; and for providing exposure assessments, exposure monitoring, equipment, hygiene facilities, and training in accordance with Part 603 Lead Exposure in Construction.

b. Equipment and Facilities. Provide the employee(s) protective clothing and equipment, change areas, showers, eating facilities, and hand and face washing facilities as required by MIOSHA's Part 603 Lead Exposure in Construction. Ensure the equipment and facilities are on site and fully functional prior to beginning any blast cleaning. Until the Contractor performs an employee exposure assessment and determines actual employee exposure for each job classification, the Contractor must provide to employee all items listed above plus respiratory protection, which must include the respirator, respirator training and fit testing, and a respirator program. Depending on the tasks, the Contractor must provide the appropriate respiratory protection until such time that exposure assessments results are complete. For manual operations, the respirator protection provided to the employee(s) must be based on anticipated (presumed) exposure levels greater than the Permissible Exposure Limit (PEL) [50 micrograms per cubic meter ($\mu g/m^3$)], but less than 10 times the PEL (500 $\mu g/m^3$). Provide the employee(s), at a minimum, with a half mask air purifying respirator with high efficiency particulate (HEPA) filters, which provides an assigned protection factor (APF) of 10. For tasks such as rivet busting, or power tool cleaning without dust collection systems, the anticipated (or presumed) exposure assessment must be between 10 to no more than 50 times the PEL which requires a higher level of respiratory protection. For tasks such as abrasive blasting or torch cutting, the anticipated exposure assessment must be more than 50 times the PEL. If, through employee exposure assessment, the Contractor determines the actual employee exposure level, then the appropriate respiratory protection can be provided. Provide the employee(s) with protective clothing and equipment, change areas, and hand and face washing facilities as required by MIOSHA's Part 1, General Rules or other relevant safety standards, for removal of non-lead containing coatings.

c. Exposure Assessment. At a minimum, collect personal samples representative of a full

shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level. Conduct the initial exposure assessment and any additional exposure assessments, and report the results in accordance with MIOSHA's Part 603.

Document the results of the employee exposure assessment(s) on the attached 'Lead Exposure Record' or another Contractor supplied form that reports the exact same pieces of data. Determine and report the results of the employee exposure assessment(s) in periods consistent with MIOSHA's Part 603. Conduct an exposure assessment of a MDOT employee designated by the Engineer. Forward MDOT employee exposure assessment results directly to:

MDOT
Safety and Security Administration/Confidential
Van Wagoner Building
P.O. Box 30050
Lansing, MI 48909

d. Training. Train all employees who are subject to exposure to lead and train employees as designated by FHWA, MDOT, or the Local Agency. Provide the following information at the preconstruction meeting:

1. Name and qualifications of the trainer,

2. Location and time of the training, and

3. An outline of the training to be provided.

Provide each employee with a certificate of training and a wallet card. Present a copy of the certificate or wallet card upon request.

Conduct training within the MDOT Region where the project is located. The training must occur between the hours of 7:00 a.m. and 5:00 p.m. on Tuesday, Wednesday, or Thursday.

e. Measurement and Payment. The completed work for Providing Exposure Assessments, Exposure Monitoring, Equipment, Hygiene Facilities, and Training will be considered included in the pay item Steel Structure, Cleaning, Partial, Type 4 or Steel Structure, Cleaning, Type 4 or in any associated structural removal pay items with steel beams.

The costs for medical evaluation, including a pulmonary function test, to determine the employee's ability to wear a respirator prior to receiving Contractor provided exposure training for all FHWA employees, MDOT employees (including consultants), and employees of Local Agencies who are acting as inspectors or project managers is not included as a cost for this special provision but must be provided for separately by the employees hiring agency.

LEAD EXPOSURE RECORD

LOCATION DATE ACTIVITY

NAME / SOCIAL SECURITY NUMBER	JOB CLASSIFICATION	TIME		ELAPSED TIME	ASSUMED UG/M^3	MEASURE DUG/M^3/ 8 HRS.	TYPE OF RESPIRATOR WORN	P. F.	Task Performed
		START	END						
(SAMPLE) ROBERT SMITH 375-09-8820	PAINTER	9 AM	2:30 PM	5-1/2 HRS	SEE LEAD EXPOSURE COMPLIANCE PROGRAM	*	HALF FACE WITH HEPA FILTER	25	CHIPPING
**									

SAMPLING/ANALYTICAL PROCEDURE USED:

* TO BE ENTERED LATER WHEN AND IF RESULTS ARE RECEIVED FROM YOUR SAMPLES

** LIST ALL EMPLOYEES EXPOSED TO LEAD ON THIS FORM who's EXPOSURES ARE REPRESENTED BY ANOTHER INDIVIDUAL THAT IS ACTUALLY MONITORED

Comments:

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
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
H BRACKETS

BFS:JJG 1 of 1 APPR:MWB:AJU:12-08-23
FHWA:APPR:12-12-23

Delete subsection 810.04.N, on page 8-58 of the Standard Specifications for Construction, in its entirety and replace with the following:

N. **H Bracket.** Provide and install H brackets in accordance with MDOT's Sign Support Standard Plans SIGN 740 series, 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 Typicals* 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 Typicals* 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
TEMPORARY PEDESTRIAN TYPE II BARRICADE

COS:CRB 1 of 2 APPR:CAL:CT:03-01-21
APPR:FHWA:03-08-21

a. Description. This work consists of delivering, installing, maintaining, relocating, and removing a temporary pedestrian Type II barricade section as identified in the proposal or on the plans. Use temporary pedestrian Type II barricades to close non-motorized facilities including sidewalks, bicycle paths, pedestrian paths, and shared use paths that are not part of the roadway. One pedestrian Type II barricade is defined as a barricade section at least 43 inches wide, including all supports, ballast, and hardware.

b. Materials. Provide a temporary pedestrian Type II barricade that meets the requirements of *National Cooperative Highway Research Program Report 350 (NCHRP 350)* or *Manual for Assessing Safety Hardware (MASH)*, in addition to meeting the following requirements:

1. Provide barricade sections at least 43 inches wide, designed to interconnect to ensure a continuous accessible tactile barrier. Ensure the connection includes provisions to accommodate non-linear alignment as well as variations in elevation at the installation area.

2. Ensure the top surface of the barricade is designed to function as a hand-trailing edge and has a height between 32 and 38 inches. Ensure the lower edge of the barricade is no more than 2 inches above the surface of the non-motorized facility. Ensure the top edge of the bottom rail of the barricade is a minimum of 8 inches above the surface of the non-motorized facility. The barricade may have a solid continuous face. Finally, all features on the front face of the barricade (the face in contact with pedestrians) must share a common vertical plane.

3. Equip both sides of the barricade with bands of alternating 6-inch wide orange and white vertical stripes of reflective sheeting. Two bands of sheeting 6 inches tall and a minimum of 36 inches long containing at least two orange and two white stripes each are required. One band placed near the top and one near the bottom if the barricade section has a solid face. If the barricade consists of two rails, affix one band of sheeting to each rail. Ensure the stripes of reflective sheeting are aligned vertically. Ensure this sheeting meets or exceeds the requirements of *ASTM D4956, Type IV* sheeting.

c. Construction. Construct the temporary pedestrian Type II barricade in accordance with the manufacturer's recommendations, MMUTCD, the plans, and the following requirements:

1. Install the barricade as shown on the plans and as directed by the Engineer. Interconnect all barricade sections using hinge components, if necessary, to ensure a continuous detectable edge for the entire installation. Ensure the barricade is ballasted in accordance with the manufacturer's recommendations to ensure stability during wind events and contact with pedestrians.

2. When the barricade is installed near motor vehicle traffic, ensure reflective sheeting is visible to motorists.

3. When temporary pedestrian Type II barricades are used to close a non-motorized facility, ensure a sufficient number of barricade sections are used to block the entire width of the facility. The barricade may extend outside the edge of the non-motorized facility but must not be less than the full width of the facility.

4. If sections of multiple-colored barriers are used (i.e. safety orange and white) install the sections such that the colors alternate to increase conspicuity.

5. Ensure temporary pedestrian Type II barricades are not used to close a motor vehicle facility. Ensure these barricades are not used to guide pedestrian traffic on a motor vehicle facility in the presence of active traffic. This prohibition includes bicycle/shared use lanes or shoulders in the presence of active traffic.

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**
Pedestrian Type II Barricade, Temp	Each

Pedestrian Type II Barricade, Temp, includes delivering, installing, maintaining, relocating, and removing one barricade section that is at least 43 inches wide. Additional payment will not be made if wider sections are provided. Payment will be made on delivery for the quantity delivered to the project site, up to planned quantity. Any amount delivered exceeding plan quantity will not be paid unless approved by the Engineer. This includes all rails, supports, ballast, hinge points, reflective sheeting, and miscellaneous hardware needed to install and maintain a barricade section.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LANDSCAPE PLANTS SOURCE LIST

RSD:YGQ 1 of 1 APPR:KK:JN:04-05-24
FHWA APPR:04-08-24

a. Description. This work consists of submitting a Landscape Plants Source list to the Engineer at the preconstruction meeting.

b. Materials. Furnish a Landscape Plants Source list to the Engineer that identifies each plant by species, size, origin and quantity specified on the project. The list will be reviewed at the preconstruction meeting. Nursery stock must come from nurseries located in Zone 4 or Zone 5 of the 2023 USDA Hardiness Zone Map for landscaping in Michigan's lower peninsula. Nursery stock for landscaping in Michigan's upper peninsula must come from nurseries located in Zone 3 or Zone 4. Nurseries located in Zone 6 of the upper Great Lakes region will be allowed as follows:

1. Located at or north of latitude 40 degrees North.

2. Zone 6b will only include nurseries located in counties that border the Great Lakes.

3. Zone 6 plants will not be accepted for use in the upper peninsula nor in the lower peninsula counties north of US-10 except for those counties bordering Lake Michigan.

Submit requests for plant substitutions to the Engineer at the preconstruction meeting. All substitution requests will be reviewed and approved by the Engineer and Landscape Architect.

c. Construction. None specified.

d. Measurement and Payment. The completed work, as described, will not be paid for separately, but will be included in the plant material pay items.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
UNACCEPTABLE PLANT REMOVAL

RSD:JLB 1 of 1 APPR:MRB:JN:04-03-20
FHWA:APPR:04-13-20

a. Description. This work consists of removing unacceptable plants in their entirety. Plants will be inspected per subsection 815.03.K of the Standard Specifications for Construction. Remove any plants considered unacceptable as defined in that subsection and identified by the Engineer.

b. Materials. None specified.

c. Construction. Removal of unacceptable plants includes complete removal of the root ball, wire basket, burlap, string, bracing, stakes and guying materials. Flush cutting of plants is prohibited. Repair ruts, voids, depressions, planting holes and turf damage resulting from plant removal and re-establish turf in these areas and where plants were removed in accordance with subsection 816.03 of the Standard Specifications for Construction and as directed by the Engineer.

Removed plants and associated materials are to be disposed of per subsection 815.03.K of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will not be paid for separately, but is considered to be included in the cost for providing the original plant material.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LANDSCAPING

RSD:JN 1 of 1 APPR:NJM:DBP:12-08-23
FHWA:APPR:12-12-23

Make the following changes to section 815 of the Standard Specifications for Construction.

Delete subsection 815.03.B, on page 8-135 of the Standard Specifications for Construction, in its entirety and replace with the following:

B. **Site Preparation**. Excavate holes from the center of staked location. Excavate the hole to a width which is a minimum of twice the diameter of the root ball. Place the root ball on undisturbed soil.

Backfill the planting holes with prepared soil the same day they are dug.

After backfilling is complete, place 4 inches of shredded bark mulch unless otherwise shown on plans.

Delete subsection 815.03.F.5, on page 8-137 of the Standard Specifications for Construction, in its entirety.

Delete subsection 815.04.B, on page 8-141 of the Standard Specifications for Construction, in its entirety and replace with the following:

B. **Site Preparation.** The unit price for **Site Preparation, Max (dollar)** includes the cost of digging holes, providing prepared soil, backfilling holes, disposing of excess excavated material, shredded bark mulch, and bracing and guying.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
NON-FREEWAY SINUSOIDAL SHOULDER CORRUGATIONS

PMK:MKB 1 of 1 APPR:JWB:CRB:12-15-23
FHWA:APPR:12-18-23

a. Description. This work consists of milling sinusoidal corrugations into the shoulder of bituminous or concrete pavements at the locations shown on the plans. Complete this work in accordance with section 822 of the Standard Specifications for Construction and this special provision.

b. Equipment. The use of diamond blades is required for installations on concrete pavements.

c. Construction. Construct corrugations in accordance with the plans, section 822 of the Standard Specifications for Construction, Standard Plan R-112 Series, and this special provision.

If the final pavement markings are not recessed and two applications of the edgeline are called for, the first application is to be applied prior to shoulder corrugations and will serve as the layout for the shoulder corrugations. If the final pavement markings are not recessed and only one application of edgeline is called for, ensure it is applied prior to shoulder corrugations and serves as the layout for the shoulder corrugations.

If the final pavement markings are recessed, install the shoulder corrugations prior to the recessing and placement of the permanent edgeline. Layout of the pavement markings and shoulder corrugations are the responsibility of the Contractor.

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, Non-Freeway, Milled, HMA Shld	Foot
Sinusoidal Corrugations, Non-Freeway, Milled, Conc Shld	Foot

Payment for the above pay items includes layout work and containment, collection, and disposal of spoils. The completed work will be measured by the foot along the outside edge of pavement 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 shown on the plans and as directed 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 TRANSPORTATION

SPECIAL PROVISION
FOR
AGGREGATE, 46G

CFS:JJG 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
STRUCTURAL STEEL FOUNDATION PILE POINTS

STR:JAB 1 of 2 APPR: REL:RWS:01-25-23
FHWA:APPR:02-01-23

Delete subsection 906.05.C of the Standard Specifications for Construction, in its entirety and replace with the following:

C. **Pile Points**.

1. **H-Piles.** When specified, steel H-piles must be fitted with cast steel pile points. Cast the pile points in one piece steel as described, conforming to the dimensional requirements as shown on the plans. Provide certification that the steel used in the fabrication of the pile points meets any one of the following specifications: *ASTM A148/A148M Grade 90-60* or *AASHTO M103M/M103 Grade 65-35*. The minimum weight of the pile points must be 35 percent of the proposed pile weight, per 1 foot for *AASHTO M103M/M103* steel and 30 percent for *ASTM A148/A148M* steel.

   Fasten the pile points to the steel H-piles using a minimum 5/16 inch continuous fillet weld or greater weld size per the manufacturer's specifications along the flange contact areas. The pile points must have sufficient flange and continuous web vertical back-ups to assure proper alignment and fitting to the pile. Slope the soil or rock bearing surfaces of the points, downward towards the web, a minimum of 15 degrees, but not to exceed 45 degrees, to the horizontal under the flanges. Terminate the sloped surfaces of the points in a manner to form a flat surface not exceeding one third of the flange width.

   Furnish pile points for steel H-Piles from the following manufacturers or approved equal:

Manufacturer	Product/Model
Associated Pile & Fitting Corp.	Hard Bite HP77600-B
	Hard Bite HP77750-B
	Hard Bite HP7780-B
	Super Bite PAR-T Series
Construction Supply Company	HT 3300 Series w/teeth
DFP Foundation Products, LLC.	Tuftip H-777
Mid-America Foundation Supply, Inc.	HPH Series
Versa Steel, Inc.	VS 300 Series

2. **CIP Concrete Pile Shells.** Close ends of pile shells with a flat plate welded to the pile as shown in the contract. Plate steel used in the fabrication of the pile point must meet the requirements of *AASHTO M270M/M270 Grade 50 or Grade 50W.*

3. **Timber Piles.** Shod timber piles with metal shoes. Use either Associated Pile and Fitting Corp T-9168 (Timber Point), T-9316 (Timber Boot), or a design approved by the Engineer. Shape the points of timber piles to secure an even and uniform bearing on the shoes.

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
DELINEATOR HARDWARE

PMK:MKB 1 of 1 APPR:MWB:DBP:11-09-23
FHWA:APPR:11-20-23

Delete subsection 919.03.C on page 9-163 of the Standard Specifications for Construction in its entirety and replace it with the following:

C. **Mounting Hardware.** Mounting hardware for aluminum reflectors must consist of a bolt system.

Bolts must be stainless steel and accompanied by a locknut to produce a vandal-resistant attachment. A nylon washer is also required to be placed between the bolt head and/or locknut and the face of the reflector to protect the sign sheeting.

Ensure that the system has a large enough diameter that it will not be subject to pulling through the holes in the delineator reflectors or posts.

Alternative fastening systems may be approved by the Engineer provided they form a vandal-resistant attachment.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WET REFLECTIVE PAVEMENT MARKINGS

PMK:MKB 1 of 1 APPR:MWB:DBP:11-09-23
FHWA:APPR:11-20-23

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.** For surface applications or retracing over existing pavement markings 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. When installing wet reflective pavement markings in a new recess, select wet reflective optics from one of the below products.

3M, Connected Roads All Weather Elements Series 50/51
3M, Reflective Elements Series All Weather 50/51

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 Requirements: Average Initial Retroreflectivity at 30-meter Geometry in mcd/lux/m2

Test Method	Color	
	White	Yellow
Dry (*ASTM E1710*) for cold plastic, polyurea, waterborne, regular dry, and sprayable thermoplastic	700	500
Dry (*ASTM E1710*) for all other materials	550	350
Wet Recovery for all materials (*ASTM E2177*)	300	225
Wet Continuous for all materials (*ASTM E2832*)	250	200

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
PAVEMENT MARKING SHELF LIFE

PMK:MKB 1 of 1 APPR:GJD:KK:04-05-24
FHWA:APPR:04-08-24

Delete the fourth paragraph of section 920.01 on page 9-168 of the Standard Specifications for Construction, in its entirety and replace it with the following:

Use both liquid and solid applied pavement marking materials within the shelf life directed by the manufacturer. Provide certification that liquid and solid applied pavement marking materials have been stored per the manufacturer's requirements. Materials not in compliance will be rejected and removed at the Contractor's expense.

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**.

NOTICE TO BIDDERS

PROJECT COORDINATION

CON:SGI 1 of 2 03-22-24

The Contractor shall cooperate and coordinate construction activities with other Contractors within the immediate vicinity of the project as stated in subsection 104.08 of the Standard Specifications for Construction.

The Contractor shall be responsible for coordinating work efforts with MDOT and the Midland County Road Commission and any other necessary parties to avoid conflicts.

The Contractor shall take due account of all such work and shall arrange their methods of cooperation and storage of materials and equipment so as to cause a minimum of interference with the work to be performed by others.

No claims for extra compensation or adjustments will be allowed due to delay or failure of others to complete work as scheduled due to coordination of work.

The following projects will coincide with this project's construction:

- Great Lakes Bay Regional Trail construction from Smiths Crossing/Bailey Bridge Road southeasterly.

- Boom Deployment between the boat launch on the east side of the river to the anchor points on the west side of the river by the Dow Chemical Company (Dow). Access at any time may be required with fairly large equipment. Access shall be provided to Dow at all times. No construction equipment shall be parked blocking the "Boom Deployment Gated Access" area at any time.

- Dow will be conducting remediation activities along the east bank of the river on Dow property downstream of this location. Access for Dow's contractors must be maintained at all times.

Contractor must contact Dow employee Ryan Gwizdala at 989-280-0313 one week prior to paving of the driveway at station 33+32.

The Contractor shall not stockpile materials or park vehicles and equipment outside of the right-of-way. Access shall be maintained at all times to Dow property.

The anchor locations and access to the three anchor points on the west side of the river must be maintained at all times. The Contractor must meet on-site with Dow and identify anchor locations and required needs for access prior to construction.

The work site must be kept free of any contamination such as lead paint, SPCC materials (oil, gas, diesel fuel), herbicides, pesticides, etc.

All existing bank stabilization or sediment capping remedies on the Tittabawassee River must remain undisturbed throughout the project. Dow and Contractor will inspect the bank and cap areas ahead of construction to ensure the Contractor understands the location of existing

remedies. The Contractor shall provide a plan to protect said remedies. The Contractor is responsible for the costs to repair any damaged bank and cap remedies. Dow's contractors will complete the repairs in accordance with approved work plans by EPA and invoice the Contractor for costs incurred.

Heating and housing will not be paid for separately, but are included in other pay items.

NOTICE TO BIDDERS
UTILITY COORDINATION

CON:SGI 1 of 2 03-22-24

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in subsection 104.08 of the Standard Specifications for Construction. In addition, for the protection of underground utilities, the Contractor shall follow the requirements in subsection 107.12 of the Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon subsection 108.09 of the Standard Specifications for Construction.

PUBLIC UTILITIES

The following Public Utilities have facilities located within the right-of-way:

AT&T, 502 Beach Street, Flint, MI 48502
Contact Person: Mr. Michael Baiz (810) 938-3143 (Telephone)

Charter Communications, 1480 S Valley Center Drive, Bay City, MI 48706
Contact Person: Mr. Mark Kelly (989) 233-9404 (Cable TV)

City of Midland, 333 W Ellsworth Street, Midland, MI 48640
Contact Person: Mr. Shane Bjorge (989) 837-3353 (City Roads, Storm Sewer)

City of Midland, 4811 N Saginaw Road, Midland, MI 48642
Contact Person: Mr. Tom Hoblet (989) 837-6958 (Water)

City of Midland, 2125 Austin Street, Midland, MI 48642
Contact Person: Mr. Steve Smith (989) 837-3504 (Sanitary Sewer)

Consumers Energy, 3201 E Court Street, Flint, MI 48506
Contact Person: Mr. Evan Huizenga (810) 247-8227 (Gas)

Consumers Energy, (Local Office), 2400 Weiss Street, Saginaw, MI 48602
Contact Person: Ms. Virgie Downs (989) 791-5938 (Electric)

Lake Net, LLC, 16690 Gration Road, Hemlock, MI 48626
Contact Person: Mr. Chris Fabien (989) 245-2289 (Fiber)

Midland County Drain Commission, 220 W Ellsworth Street, Midland, MI 48640
Contact Person: Mr. Joseph Sova (989) 832-6770 (County Drain)

Midland County Road Commission, 2334 N Meridian Road, Sanford, MI 48657
Contact Person: Mr. Jonathan Myers, P.E. (989) 859-9991 (County Roads)

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 highway right-of-way.

Owners of public utilities will not be required by the County to move additional poles or structures in order to facilitate the operation of construction equipment, unless it is determined by the Engineer that such poles or structures constitute a hazard to the public, or are extraordinarily dangerous to

the Contractor's operations.

Attention is here by given to the contractor that he shall be working under existing power lines.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

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
1-07	101.02	Change the first abbreviation of the list on this page to read: MMUTCD.....Michigan Manual on Uniform Traffic Control Devices
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 the fourth paragraph on this page 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."
6-29	603.02	Change the first sentence in the last paragraph in this subsection to read: "Provide coarse aggregate with no greater than 2.5% absorption in accordance with AASHTO T85."
7-11	705.02	Change the second sentence in the last paragraph in this subsection to read: "Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete."
7-29	706.02	Change the first sentence in the seventh paragraph in this subsection to read: "Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete."
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

7-115	711.02	Change the first sentence in the last paragraph in this subsection to read: "Provide natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
7-120	712.02	Change the first sentence in the sixth paragraph in this subsection to read: "Provide concrete containing natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
7-185	718.02	Change the first sentence in the last paragraph in this subsection to read: "Provide concrete with natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
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 *MDOT Standard Plan R-50 series.*"
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, Cased ....Foot 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."
8-110	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, Temp .....Each

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.

9-5 902.02 Delete the first line under the Material list and relace with the following:
"Wire Cloth and Sieves ..... ASTM E11"

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:"

9-14 Table 902-1 In the row that includes the information on the 34G material, under the column titled Item of Work by Section Number (Sequential) delete the reference to the section 404.

9-15 Table 902-2 Add the superscript (n) in the first row in the Dense-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).

9-16 Table 902-2 Add the superscript (n) in the first row in the Open-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).

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 following row after the third row in the Open-graded aggregates section reading:

46R	--	45	--	--	--

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.

9-17	Table 902-2	Add the following footnote below the existing footnotes in this table. "(n) For recycled crushed concrete, if the source concrete uses primarily rounded river gravel aggregates, the minimum crushed particle content can be reduced to 90%."
9-21	Table 902-6	Delete the footnote (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (c) to read (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (d) to read (c) in two locations in the table.
9-25	903.04	Delete the second sentence of the second paragraph of this subsection.
9-70	909.07.A	Delete the second sentence of this subsection.
9-70	909.05.D	Change the first sentence in this subsection to read: "Provide steel pipe for jacking in place meeting the requirements of ASTM A53/A53M for Type E or Type S, Grade B, or ASTM A139/A139M for Grade B."
9-71	909.08.A	Change the first sentence in this subsection to read: "Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F714, PE 4710, DR 26 or Schedule 80 PVC.
9-94	Table 910-01	Change the value in the fifth row under the header row in the Permittivity (min) (per second) column from 0.5 to read: "0.05"
9-94	Table 910-01	Change the value in the seveth row under the header row in the Permittivity (min.) (per second) column from 0.5 to read: "0.05"
9-95	Table 910-2	Change the second row under the Ultimate strength section to read: "CMD[(c)] 1950 lb/ft"
9-119	913.06	Change this subsection to read: Circular precast concrete units with circular reinforcement for adjusting rings, tops, risers, and sump bases for manholes, catch basins, and inlets must meet the requirements of AASHTO M199 and the following additions and exceptions:
9-133	917.03	Rename the four subsections following the first paragraph on this page as follows: D. Deciduous Shade Trees. E. Small Trees, Ornamentals, and Shrubs. F. Evergreen Trees. G. Vines, Ground Cover, and Herbaceous Ornamental Plants.
9-149	918.08	In the first paragraph of this subsection delete the second sentence and replace with the following:

		"Provide light standards designed in accordance with AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."
9-150	918.10	In the first paragraph of this subsection delete the first sentence and replace with the following: "Provide tower lighting units designed in accordance with AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."
9-164	919.04.B	In the first paragraph of this subsection delete the first sentence and replace with the following: "Provide square tubular steel sign supports meeting the chemical, mechanical, and geometric properties of material used in the crash 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."
10-42	Table 1006-01	Change footnote (a) to read: "(a) Ensure that the coarse aggregate's absorption does not exceed 2.5% in accordance with AASHTO T85."
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/yd³, 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 AASHTO T85.

(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.

MIDLAND COUNTY ROAD COMMISSION

IN COOPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION

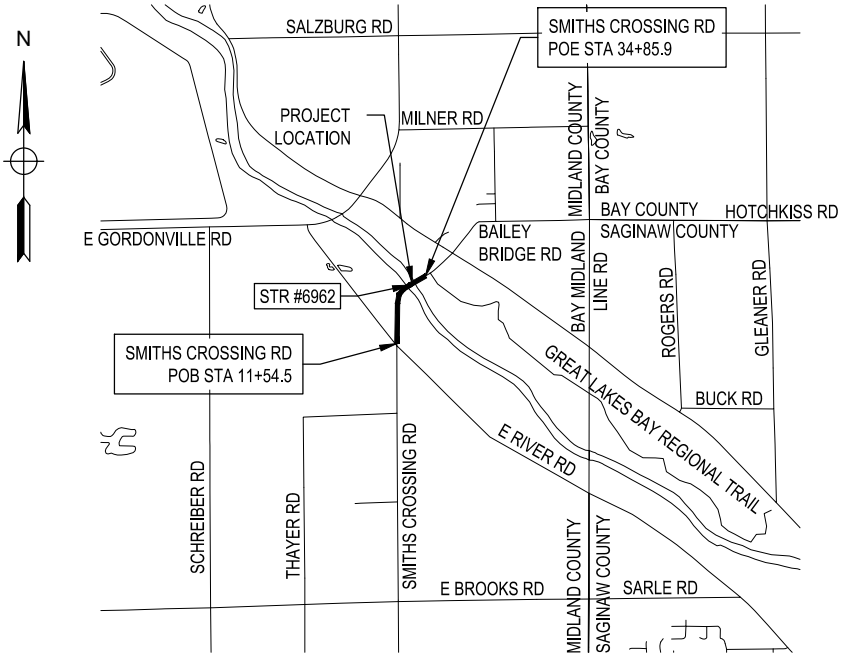
CONTROL SECTION: 56000
JOB NUMBER: 212097

BAILEY BRIDGE AT SMITHS CROSSING ROAD

INGERSOLL TOWNSHIP
MIDLAND COUNTY

TRAFFIC DATA

493	---	PRESENT ADT (2024)
493	---	FUTURE ADT (2044)
55	---	POSTED SPEED
60	---	DESIGN SPEED
1.2%	---	COMMERCIAL



SECTIONS 1 & 2, T13N-R2E

MDOT BRIDGE STANDARD PLANS

MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS	B-103-F*

MDOT ROAD STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS. THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MDOT STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

DRAINAGE STRUCTURES	R-1-G
COVER B	R-7-F
MONUMENT BOXES	R-11-E
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-J*
BUMPER & PARKING RAILS AND MISC. WOOD POSTS	R-74-D
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS	R-80-F*
BEDDING AND FILLING AROUND PIPE CULVERTS	R-82-D
UTILITY TRENCHES	R-83-C
PRECAST CONCRETE END SECTION FOR PIPE CULVERT	R-86-F
STEEL END SECTION	R-88-E*
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-I*
GRADING CROSS SECTIONS	R-105-D
SUPERELEVATION AND PAVEMENT CROWNS	R-107-H
SHOULDER AND CENTER LINE CORRUGATIONS	R-112-J*
DELINEATOR INSTALLATIONS	R-127-H*

*SPECIAL DETAILS INCLUDED IN PROPOSAL

MDOT TRAFFIC AND SAFETY STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS. THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MDOT STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT	PAVE-904-A*
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-E
STANDARD SIGN INSTALLATIONS	SIGN-100-G
ROADSIDE SIGN LOCATIONS AND SUPPORT SPACING	SIGN-120-E
STEEL POSTS	SIGN-200-E
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS	WZD-100-A*
TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E*

*SPECIAL DETAILS INCLUDED IN PROPOSAL

THE DESIGN OF THIS ROAD AND PATH IS BASED ON THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, AND SECTION C (3R) OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS - DATED 8/03/17, AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012 EDITION, AND THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION.

0.45 MILE HMA REHABILITATION, DRAINAGE IMPROVEMENTS, PERMANENT SIGNING AND PAVEMENT MARKINGS.
0.45 MILE HMA SHARED USE PATH AND BICYCLE FACILITIES, CULVERTS, AND PERMANENT SIGNING.
BRIDGE RESTORATION, SUBSTRUCTURE RECONSTRUCTION, AND DECK REPLACEMENT.

SAGINAW OFFICE
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Saginaw, MI 48607 Tel.
989-754-4717 Fax.
989-754-4440
www.SpicerGroup.com

LOG OF SOIL BORING NO.: SB-1

GeoTran Consultants, LLC

Project Name: Bailey Bridge at Smiths Crossing

Project Location: South Abutment, Midland, Michigan

Project Number: 22-04015G-10

Client: Spicer Group

Date: 6/24/2022

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 610.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
610							610.0 TOPSOIL: Dark Gray SILTY SAND with Organic Matter 0.5	0						
	SS-1	18	4 4 9	13										
	SS-2	18	1 2 1	3				5						
605	SS-3	18	2 3 2	5										
	SS-4	18	2 2 3	5				10						
600	SS-5	18	2 3 3	6			FILL: Dark Brown to Brown SILTY SAND with Trace of Clay and Gravel	15						
595	SS-6	18	3 3 4	7				20						
590	SS-7	18	3 3 2	5				25						
585	SS-8	18	3 5 8	13			583.5 27.0	30						
580	SS-9	18	15 20 21	41			Medium Dense to Dense Gray SILTY SAND with Trace of Silt and Gravel	35						
575							573.5							

Stratification lines represent approximate boundaries; In-situ, transition may be gradual.

Total Drilling Depth: 75 ft

Drilling Contractor: DLZ/American Drilling

Driller: P. Walpet

Drilling Method:
CME 75 Truck Mounted Drilling Rig, Using 3-1/4-inch I.D. Hollow Stem Auger to 20 feet and 3-7/8 in. Tri -Cone Rotary Wash to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials.

Groundwater Levels:

At Time of Drilling: 18.5 ft

End of Drilling: Not Measured

Notes:
No groundwater measurement upon completion of the drililng due to use of wash rotary method.

Logged By: D. Yip **Reviewed By:** M. Luckham

Figure No.: 3

LOG OF SOIL BORING NO.: SB-1

GeoTran Consultants, LLC

Project Name: Bailey Bridge at Smiths Crossing

Project Location: South Abutment, Midland, Michigan

Project Number: 22-04015G-10

Client: Spicer Group

Date: 6/24/2022

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 610.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
570	SS-10	18	7 10 9	19	4500		Very Stiff Gray SILTY CLAY with Little Sand and Trace of Gravel	37.0 40						
565	SS-11	18	4 4 10	14			568.5	42.0 45						
560	SS-12	18	7 11 12	23				50						
555	SS-13	18	25 26 18	44				55						
550	SS-14	18	10 8 12	20			Medium Dense to Very Dense Gray SILTY SAND with Trace of Gravel and Occasional Cobbles	60						
545	SS-15	18	5 10 8	18				65						
540	SS-16	18	11 22 32	54				70						
535	SS-17	18	13 19 27	46			535.5	75						
530							End of Boring at 75.0 ft.	75.0						

GEOTRAN LOG OF SOIL BORING - GEOTRAN STD-2012.GDT - 7/18/22 14:38 - G:\MY DRIVE\GEOTRAN-MAIN 2\2022\22-04015G_BAILEYBRIDGE_MCRC\REPORT\22-04015G-10.GPJ

LOG OF SOIL BORING NO.: SB-2

GeoTran Consultants, LLC

Project Name: Bailey Bridge at Smiths Crossing

Project Location: North Abutment, Midland, Michigan

Project Number: 22-04015G-10

Client: Spicer Group

Date: 6/23/2022

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 610.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
610							609.5 TOPSOIL: Dark Brown CLAYEY SAND with Organic Matter 1.0	0						
	SS-1	18	11 10 5	15										
	SS-2	18	4 7 10	17				5						
605	SS-3	18	2 3 6	9										
	SS-4	18	3 4 5	9			FILL: Dark Brown and Brown SAND with Trace to Little Silt, Trace of Clay, Gravel and Occasional Roots	10						
600	SS-5	18	1 3 2	5				15						
595							593.5 17.0							
	SS-6	18	15 35 50	85	>9000			20						
590	SS-7	18	13 19 28	47	>9000			25						
585	SS-8	18	14 24 50	74	>9000		Hard to Very Hard Brown to Gray SILTY CLAY with Trace to Little Sand and Trace of Gravel	30						
580	SS-9	18	27 31 45	76	>9000			35						
575							573.5							

Stratification lines represent approximate boundaries; In-situ, transition may be gradual.

Total Drilling Depth: 75 ft

Drilling Contractor: DLZ/American Drilling

Driller: P. Walpet

Drilling Method:
CME 75 Truck Mounted Drilling Rig, Using 3-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials.

Groundwater Levels:

At Time of Drilling: 38.5 ft

End of Drilling: Not Measured

Notes:
No groundwater measurement upon completion of drilling due to water introdue to the borehole during drilling

Logged By: D. Yip **Reviewed By:** M. Luckham

Figure No.: 4

LOG OF SOIL BORING NO.: SB-2

GeoTran Consultants, LLC

Project Name: Bailey Bridge at Smiths Crossing

Project Location: North Abutment, Midland, Michigan

Project Number: 22-04015G-10

Client: Spicer Group

Date: 6/23/2022

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 610.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
570	SS-10	18	22 40 50	90			37.0	40						
565	SS-11	18	28 38 50	88				45						
560	SS-12	18	20 26 31	57				50						
555	SS-13	13	23 41 50/1"	91/7"			Very Dense Gray SILTY SAND with Trace to Little Gravel and Occasional Cobbles	55						
550	SS-14	18	18 32 46	78				60						
545	SS-15	14	32 40 50/2"	90/8"				65						
540	SS-16	18	29 36 43	79				70						
535	SS-17	18	26 33 48	81			535.5	75						
530							End of Boring at 75.0 ft.	75.0						

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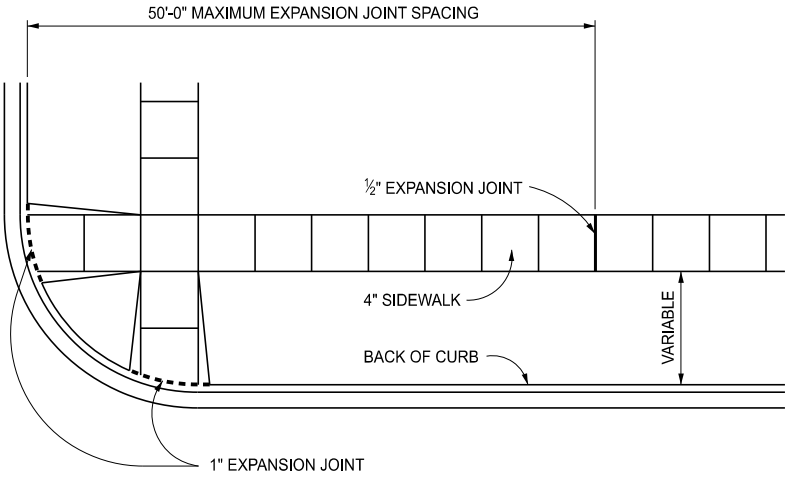
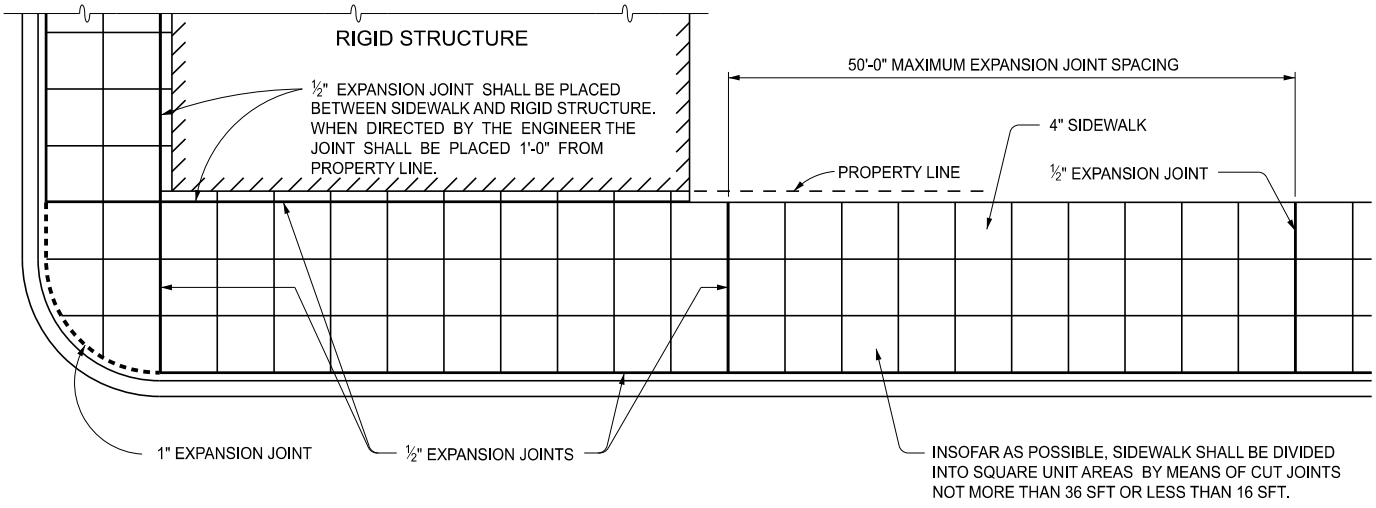
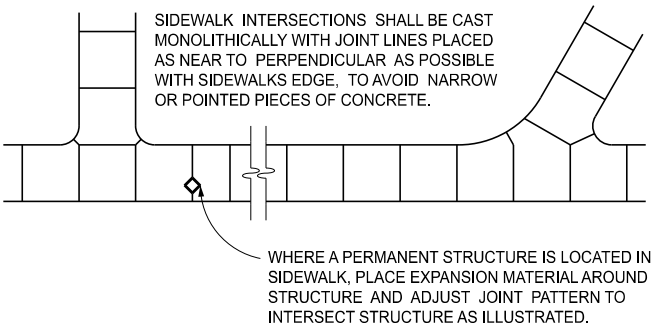
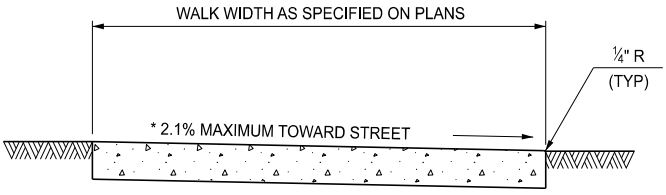




LOCATION OF JOINTS IN CONCRETE SIDEWALK



TYPICAL SIDEWALK JOINT LAYOUTS



* SEE NOTES

4" CONCRETE SIDEWALK

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

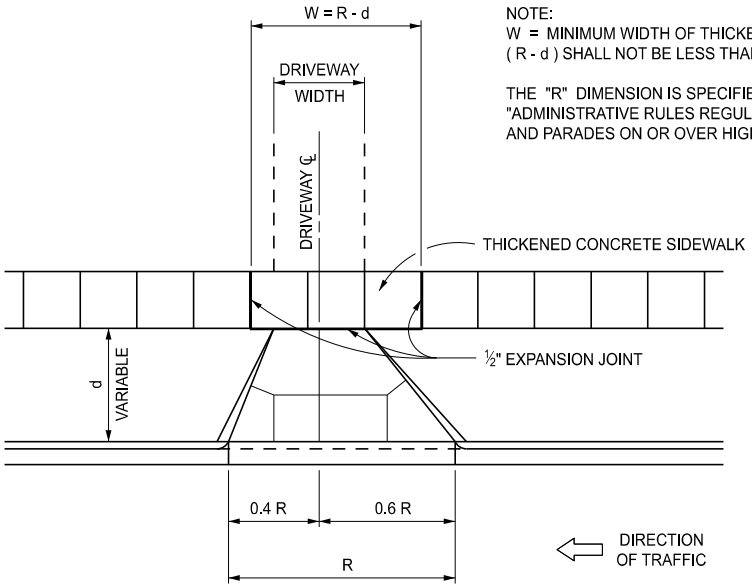
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

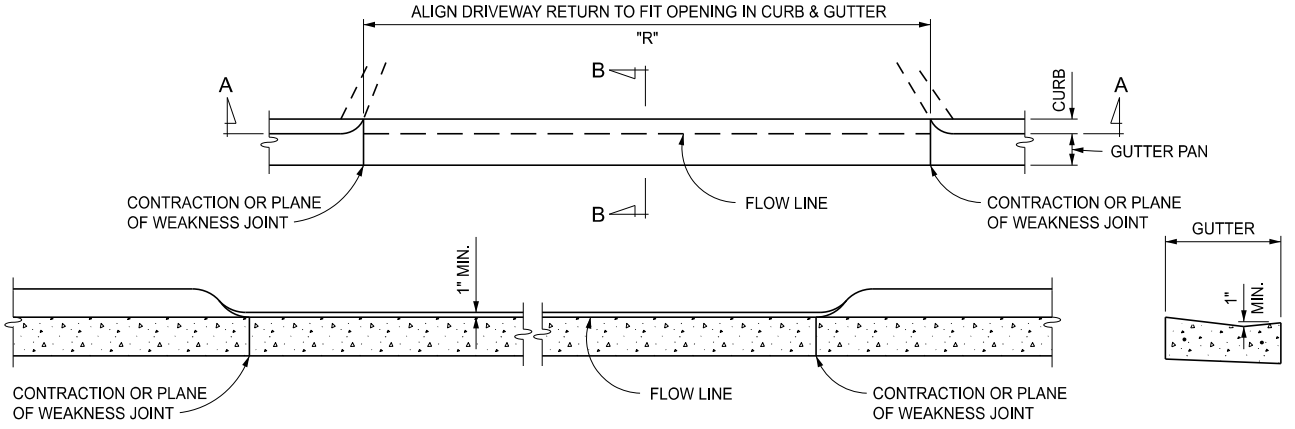
(SPECIAL DETAIL) FHWA APPROVAL	11/08/2023 PLAN DATE	R-29-J	SHEET 1 OF 4



NOTE:
W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK.
(R - d) SHALL NOT BE LESS THAN DRIVEWAY WIDTH.

THE "R" DIMENSION IS SPECIFIED IN THE PUBLICATION "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS AND PARADES ON OR OVER HIGHWAYS".

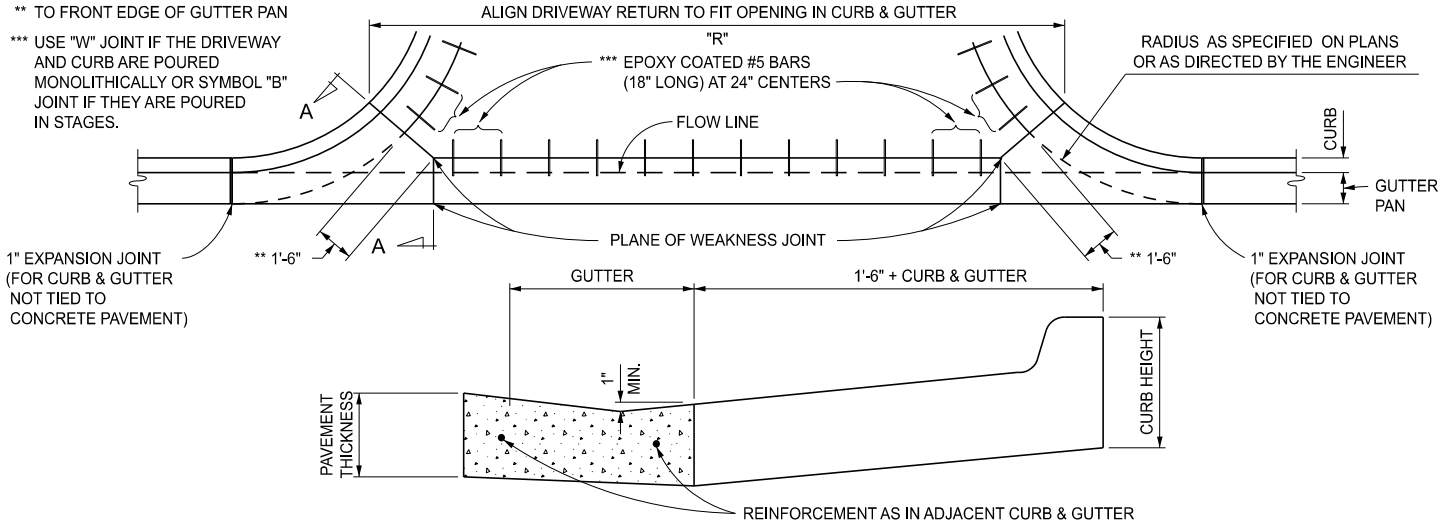
CONCRETE DRIVEWAY OPENING LAYOUT



SECTION A - A

SECTION B - B

CONCRETE DRIVEWAY OPENING, DETAIL L



SECTION A - A

CONCRETE DRIVEWAY OPENING, DETAIL M

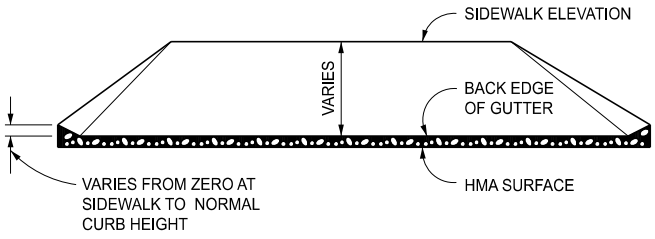
NOTE:
FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

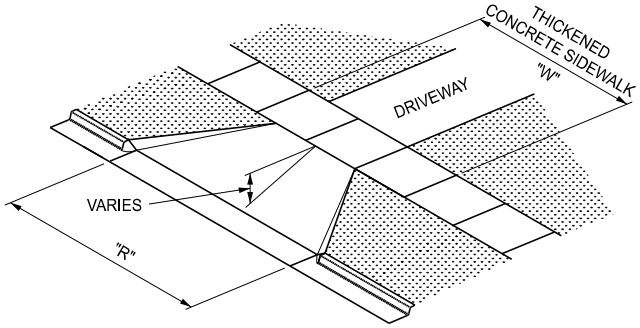
MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

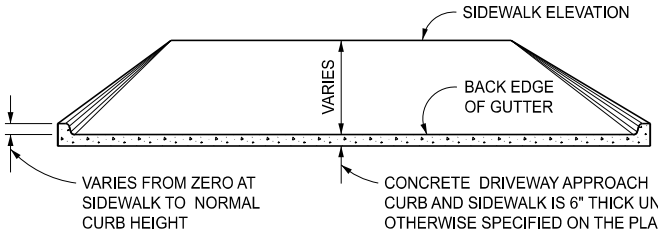
(SPECIAL DETAIL) FHWA APPROVAL	11/08/2023 PLAN DATE	R-29-J	SHEET 2 OF 4

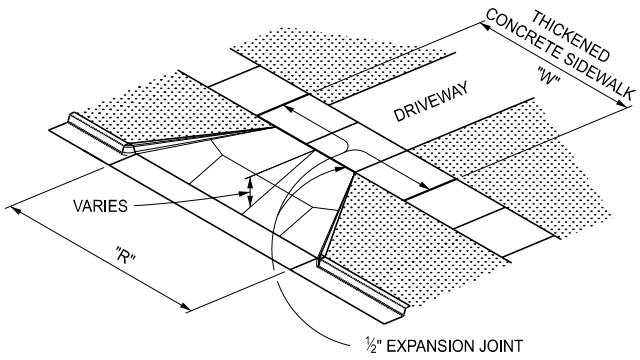




HMA DRIVEWAY APPROACH

(TO BE USED WITH DETAIL L)





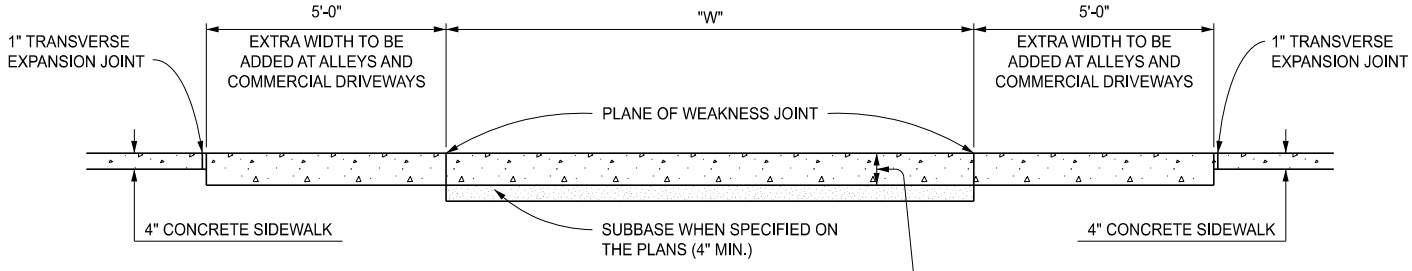
NOTES:

MONOLITHIC CURB IS INCLUDED IN THE CONCRETE DRIVEWAY APPROACH QUANTITY.

REINFORCEMENT IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. WHEN REINFORCEMENT IS SPECIFIED, SEE CHART ON THIS SHEET.

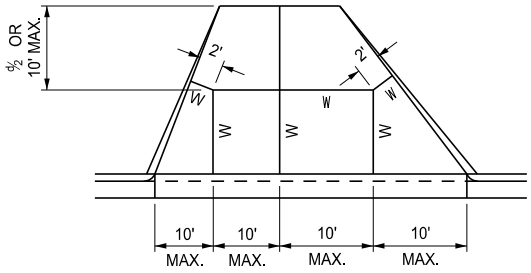
CONCRETE DRIVEWAY APPROACH

(TO BE USED WITH DETAIL L OR M)



WHEN CONCRETE DRIVEWAY APPROACH IS SPECIFIED, THE THICKENED CONCRETE SIDEWALK THICKNESS IS EQUAL TO THE THICKNESS OF THE CONCRETE DRIVEWAY APPROACH. WHEN HMA DRIVEWAY APPROACH IS SPECIFIED, THE THICKENED CONCRETE SIDEWALK THICKNESS IS 6" MIN.

THICKENED CONCRETE SIDEWALK



ADJUST DRIVEWAY JOINTS AS NEEDED TO ALIGN WITH ANY COINCIDING TRANSVERSE PAVEMENT JOINTS,

JOINT LAYOUT IS AS INDICATED OR AS DIRECTED BY THE ENGINEER.

INTERMEDIATE DRIVEWAY JOINT DETAILS

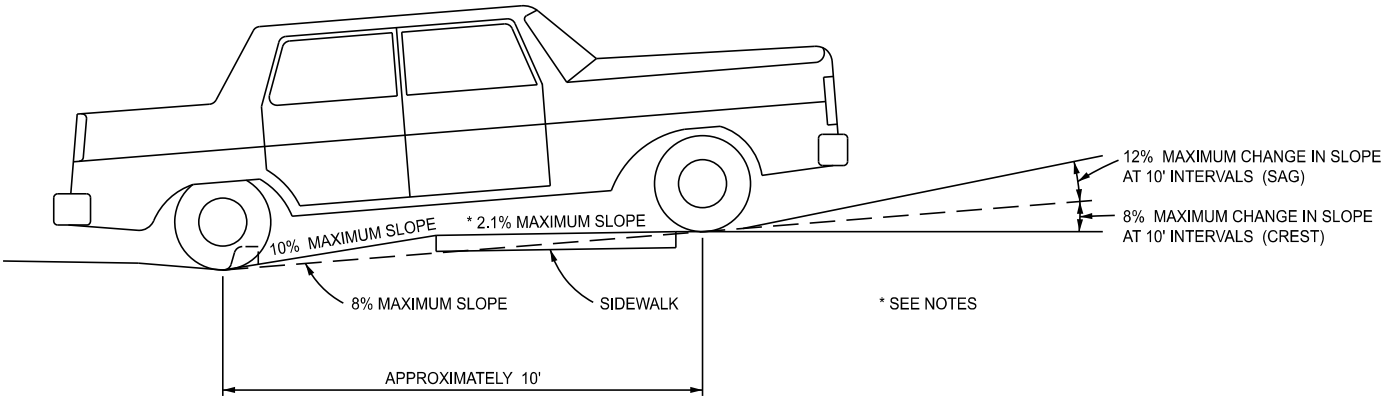
REINFORCEMENT FOR CONCRETE DRIVEWAYS		
CONCRETE DRIVEWAY THICKNESS	WIRE SIZE (6" x 6" MESH)	AVERAGE WEIGHT (LBS/100 SFT)
LESS THAN 8"	W1.4	21
	W2.9	42
8" OR GREATER	USE WIRE FABRIC REINFORCEMENT SPECIFIED ON STANDARD PLAN R-37-SERIES	

MDOT Michigan Department of Transportation

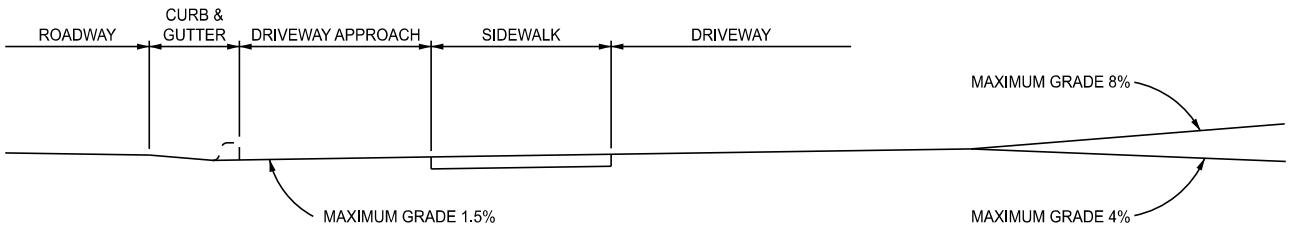
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

(SPECIAL DETAIL) FHWA APPROVAL	11/08/2023 PLAN DATE	R-29-J	SHEET 3 OF 4



LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES



COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

NOTES:

FOR DRIVEWAY DESIGN REFER ALSO TO "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS, AND PARADES ON OR OVER HIGHWAYS" AND GEOMETRIC DESIGN G-680-SERIES, COMMERCIAL DRIVEWAYS.

FOR CURB AND GUTTER DETAILS, SEE STANDARD PLAN R-30-SERIES.

TRANSVERSE SIDEWALK SLOPES ARE 2.1% MAXIMUM. IN ORDER TO MEET SITE CONDITIONS, IF THE TRANSVERSE SLOPE IS REQUIRED TO BE LESS THAN 1.5%, LONGITUDINAL DRAINAGE MUST BE PROVIDED.

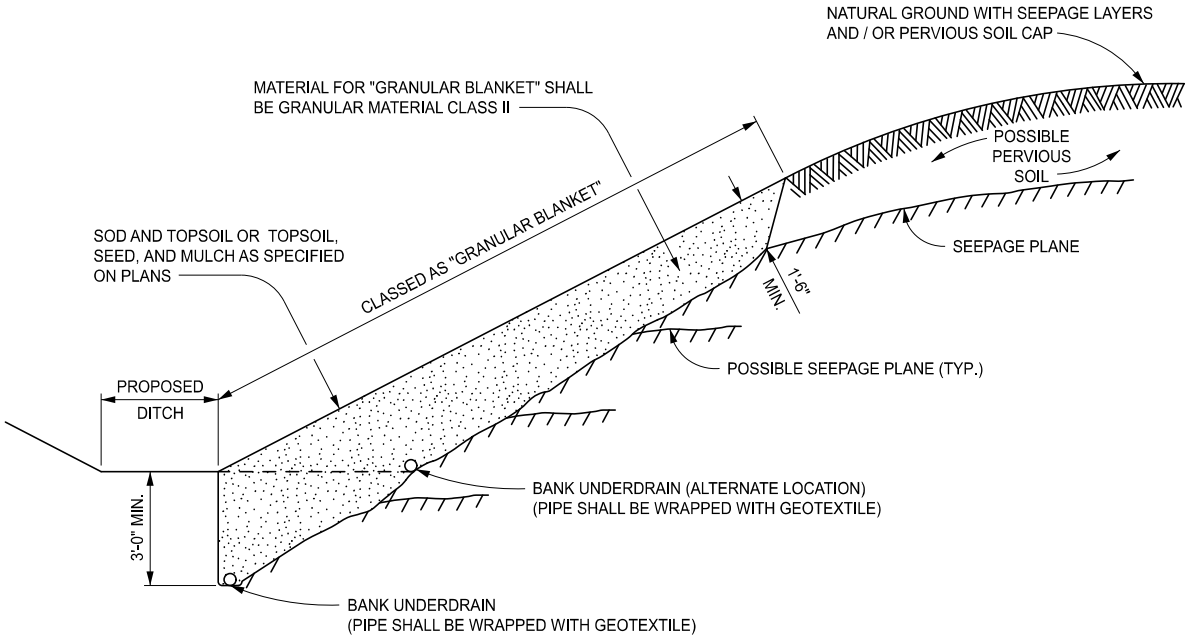
WHEN SETTING GRADES FOR COMMERCIAL DRIVES, THE TYPES OF VEHICLES USING THE DRIVE SHOULD BE CONSIDERED.

MDOT
Michigan Department of Transportation

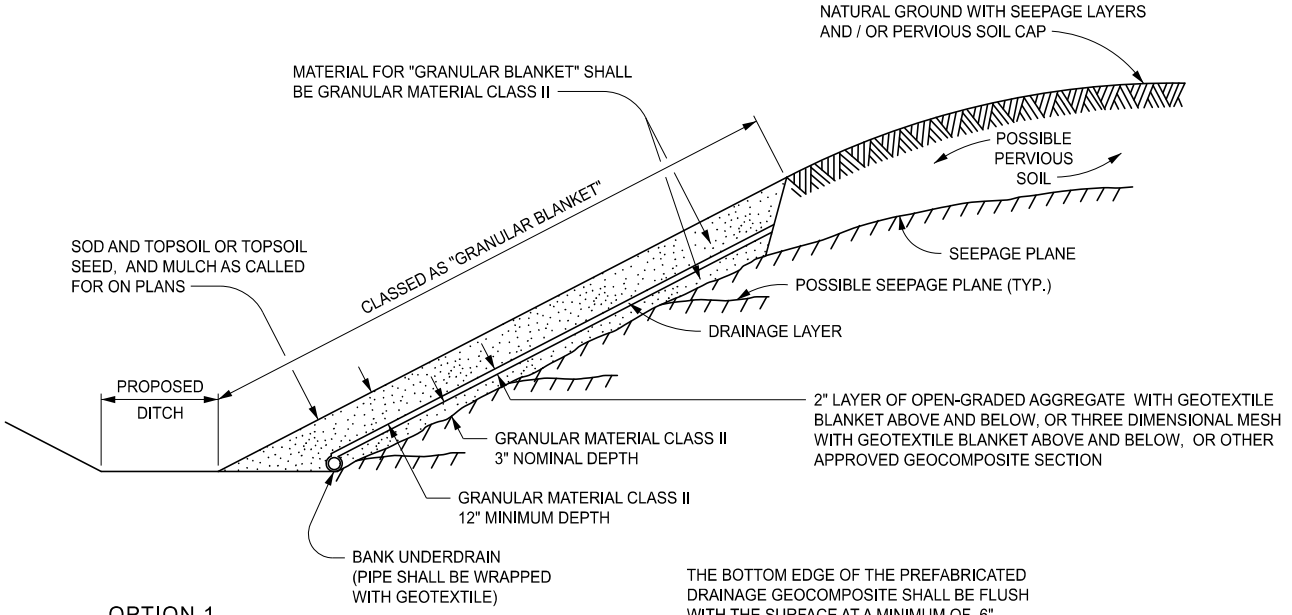
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES,
AND CONCRETE SIDEWALK

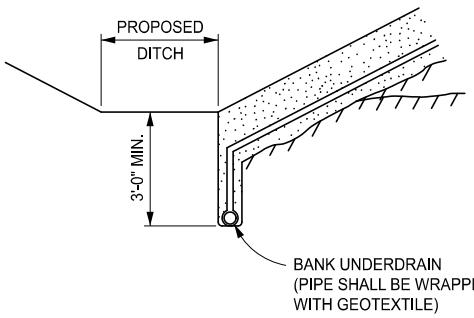
(SPECIAL DETAIL) FHWA APPROVAL	11/08/2023 PLAN DATE	R-29-J	SHEET 4 OF 4



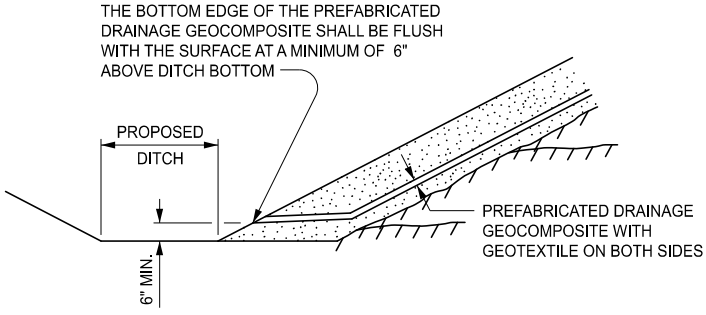
GRANULAR BLANKET TYPE 1



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

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

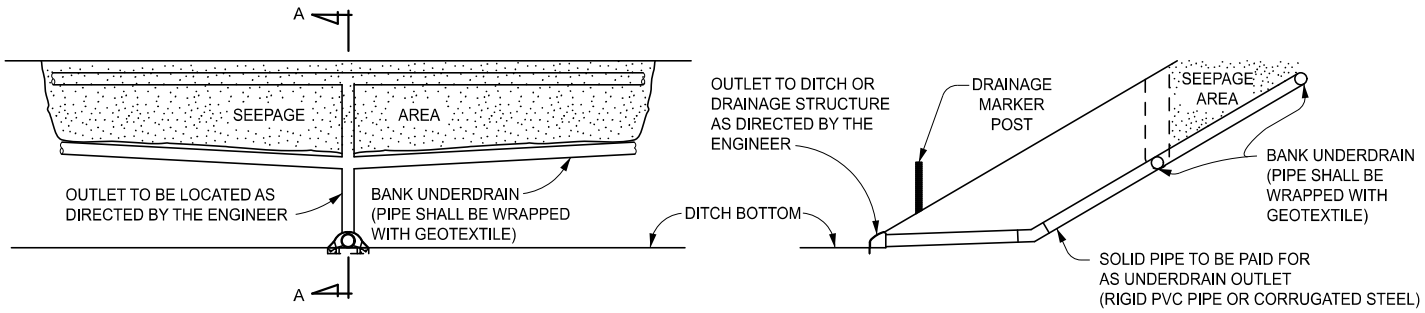
MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR

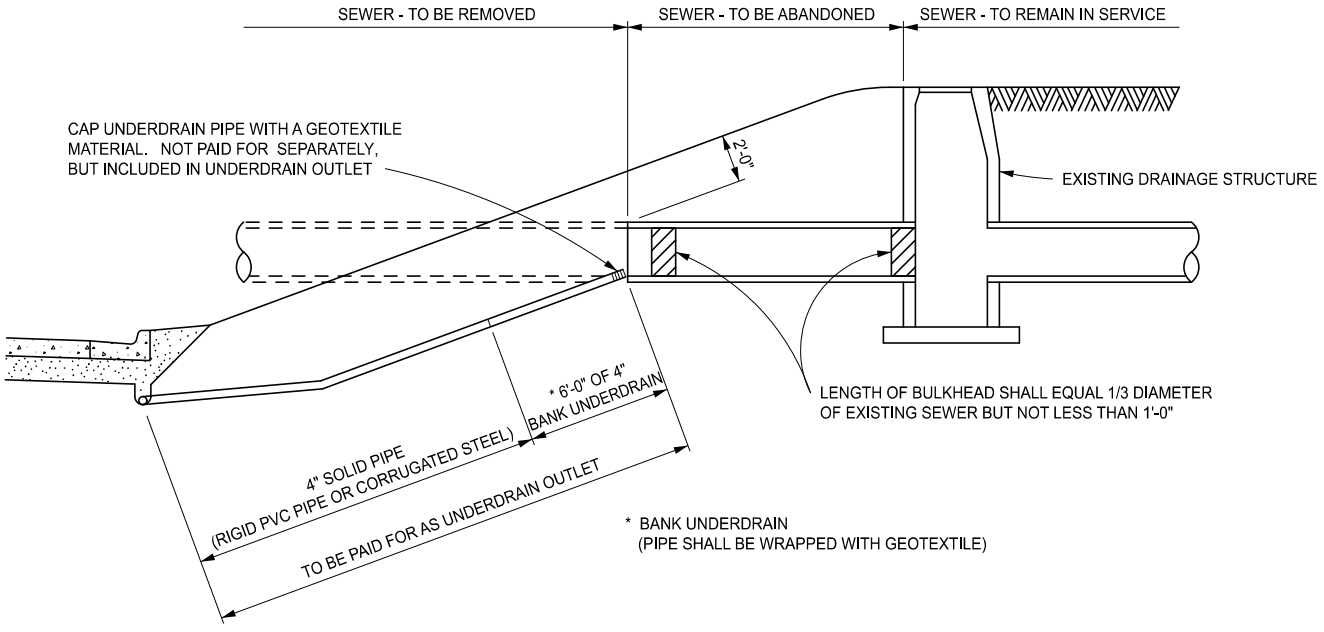
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS

(SPECIAL DETAIL)	06/28/2021	R-80-F	SHEET
FHWA APPROVAL	PLAN DATE		1 OF 8



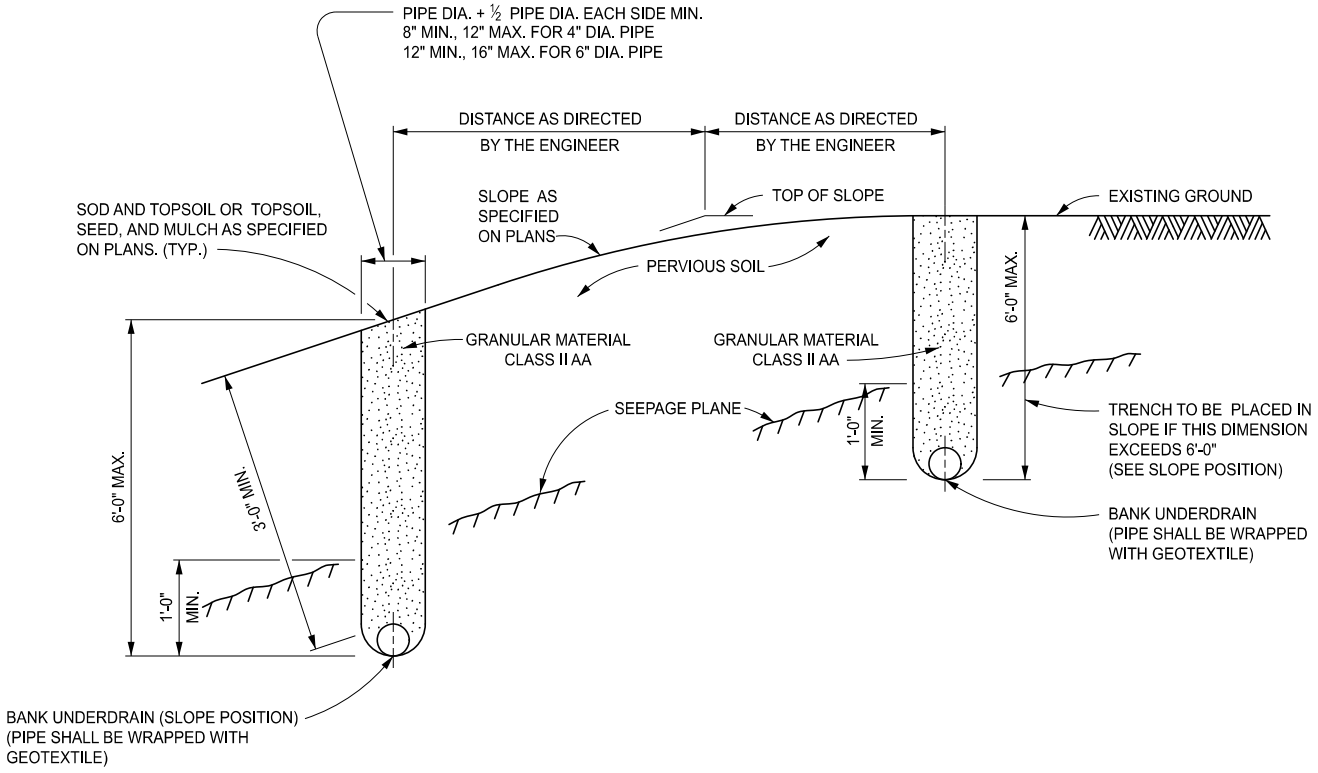
SECTION A - A

BANK UNDERDRAIN OUTLET

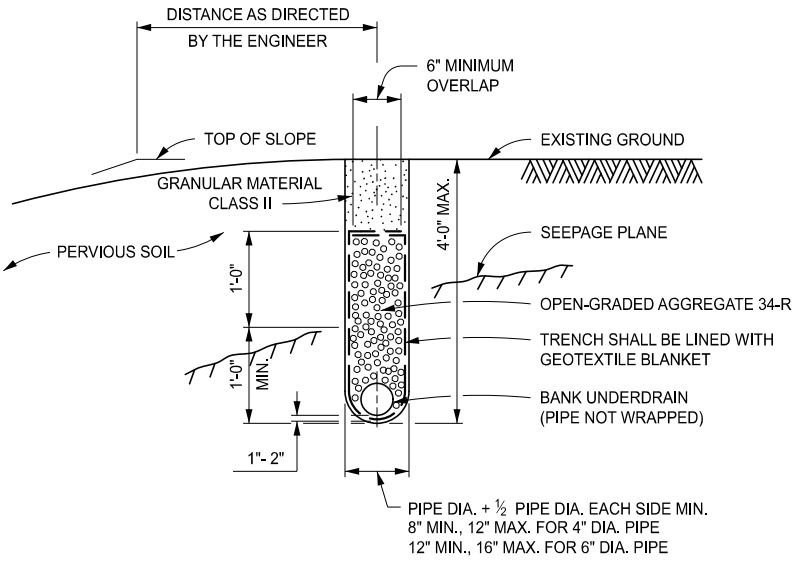


WEEPER UNDERDRAIN AND BULKHEADING SEVERED SEWER

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS		
(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 PLAN DATE	R-80-F	SHEET 2 OF 8

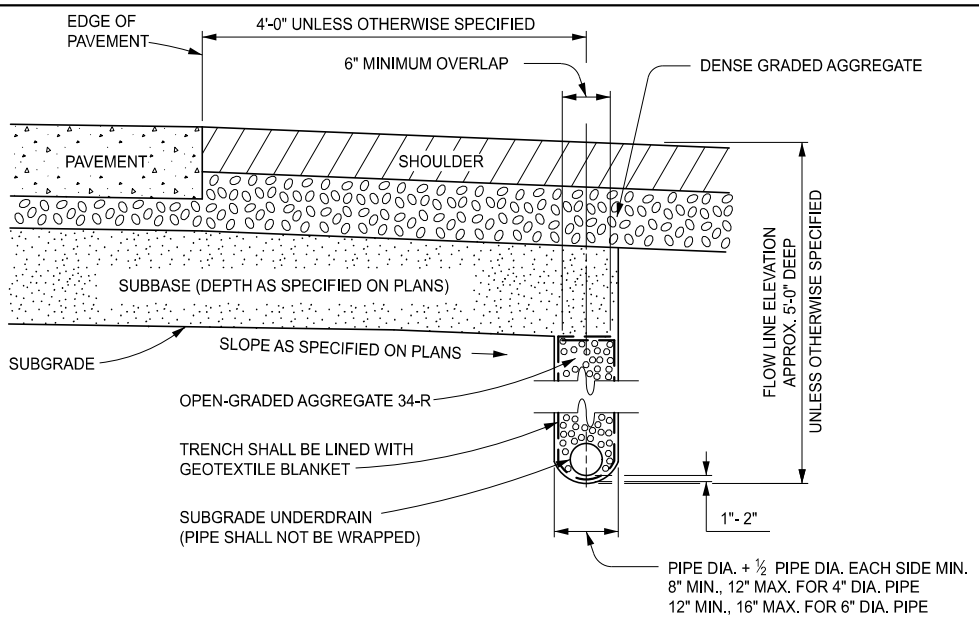


BANK UNDERDRAINS

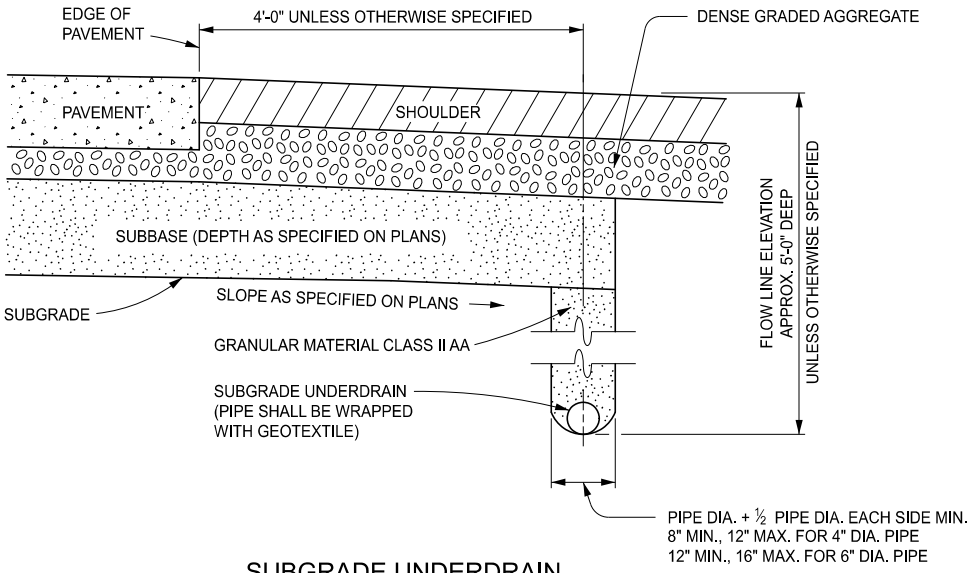


BANK UNDERDRAIN, OPEN-GRADED

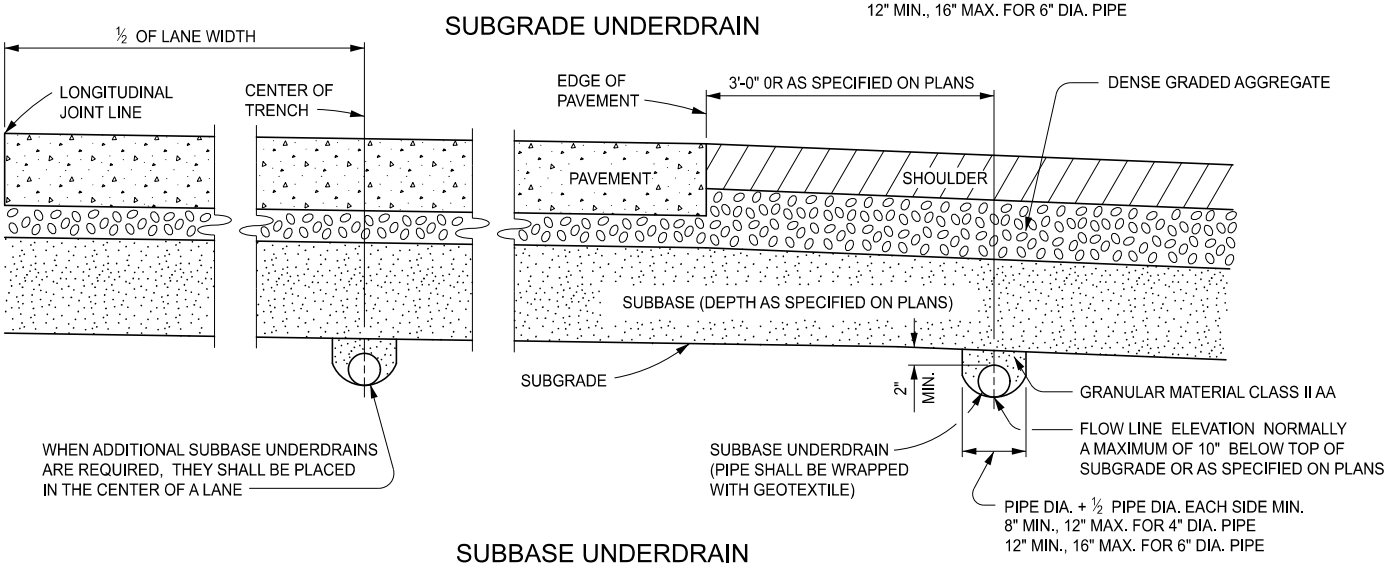
MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS		
(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 PLAN DATE	R-80-F	SHEET 3 OF 8



SUBGRADE UNDERDRAIN - OPEN-GRADED



SUBGRADE UNDERDRAIN



SUBBASE UNDERDRAIN

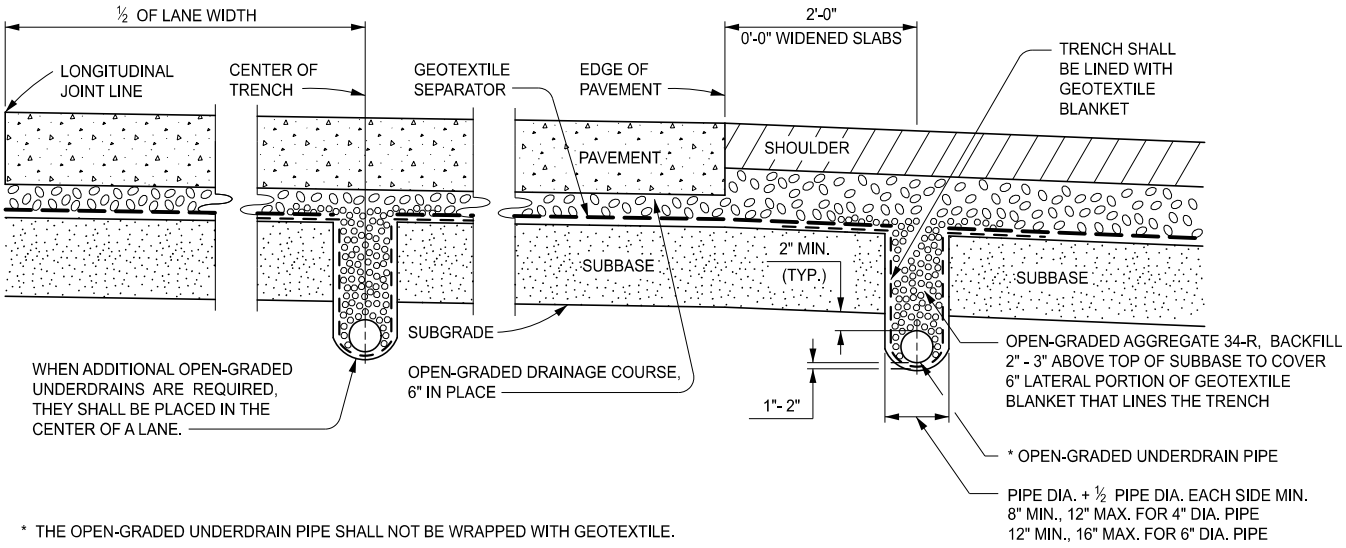
MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR

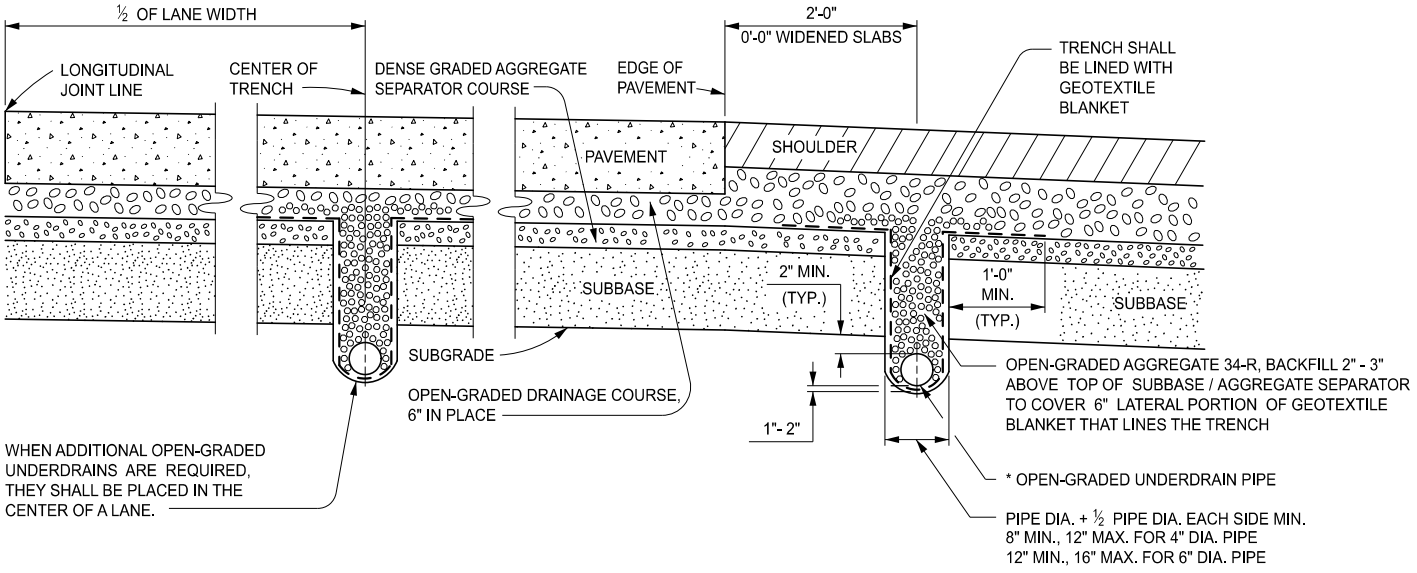
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS

(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 PLAN DATE	R-80-F	SHEET 4 OF 8



* THE OPEN-GRADED UNDERDRAIN PIPE SHALL NOT BE WRAPPED WITH GEOTEXTILE.

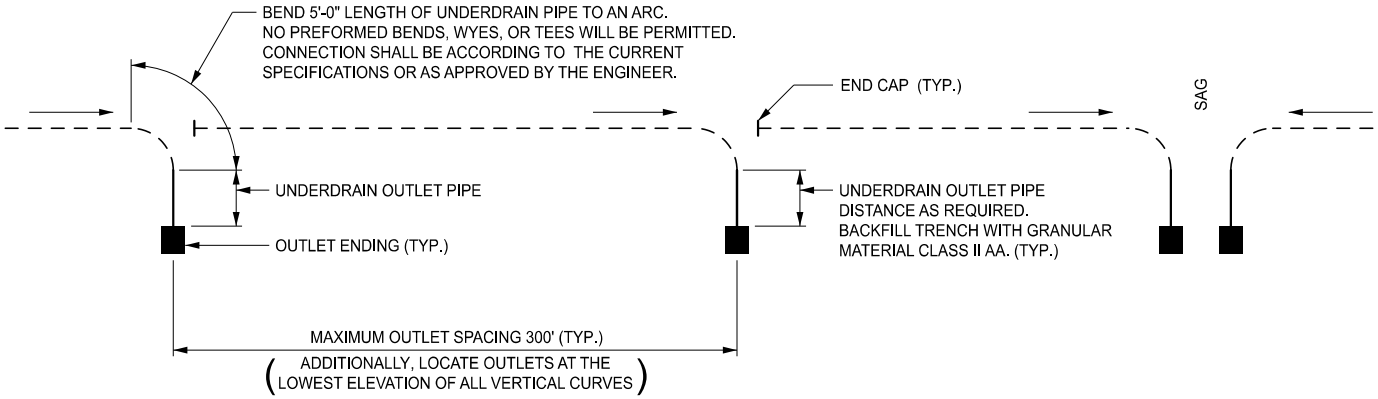
OPEN-GRADED UNDERDRAIN PIPE
WITH GEOTEXTILE SEPARATOR



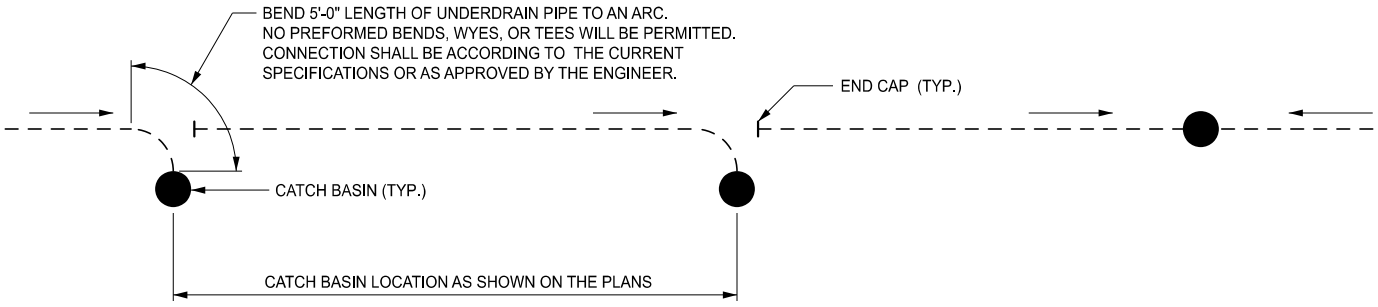
* THE OPEN-GRADED UNDERDRAIN PIPE SHALL NOT BE WRAPPED WITH GEOTEXTILE.

OPEN-GRADED UNDERDRAIN PIPE
WITH DENSE GRADED AGGREGATE SEPARATOR COURSE

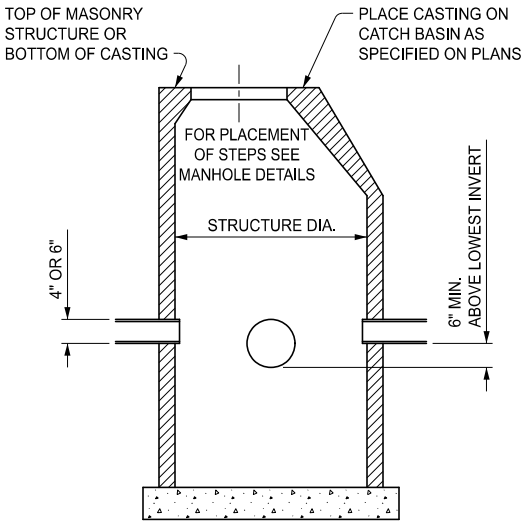
MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS			
	(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 PLAN DATE	R-80-F	SHEET 5 OF 8



PLAN SHOWING OUTLETS FOR UNDERDRAINS

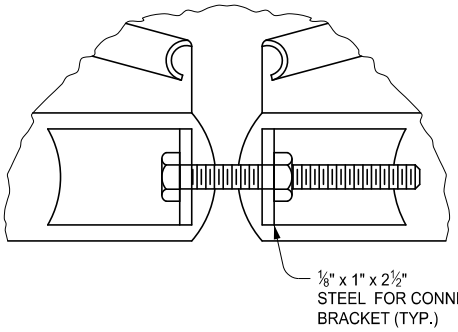


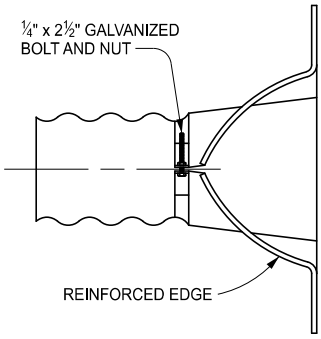
PLAN SHOWING UNDERDRAINS TAPPED INTO CATCH BASINS



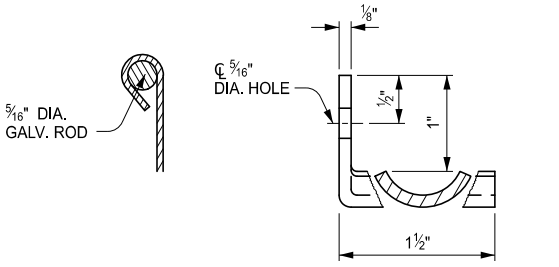
PROFILE VIEW

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS			
(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 PLAN DATE	R-80-F	SHEET 6 OF 8	

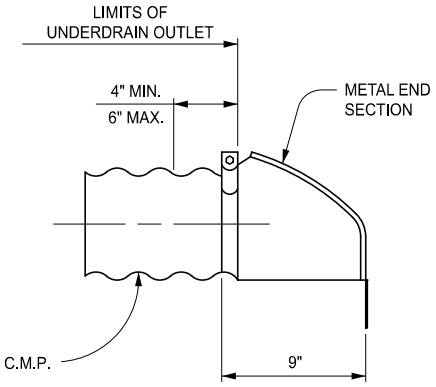


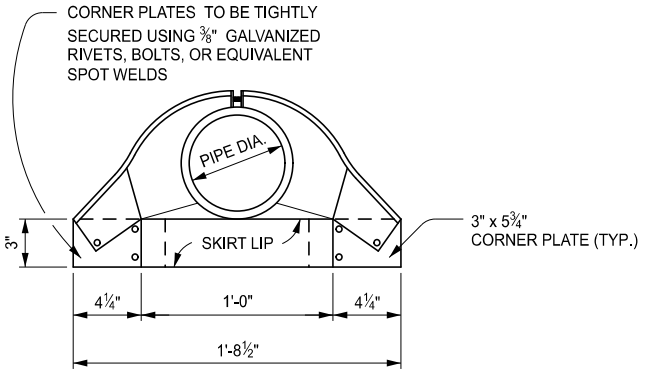


REINFORCED EDGE DETAIL



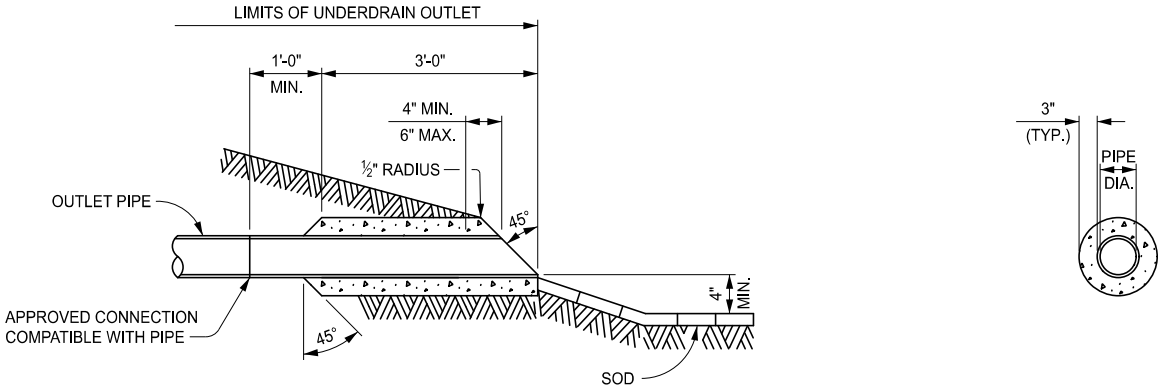
CONNECTOR BRACKET DETAIL



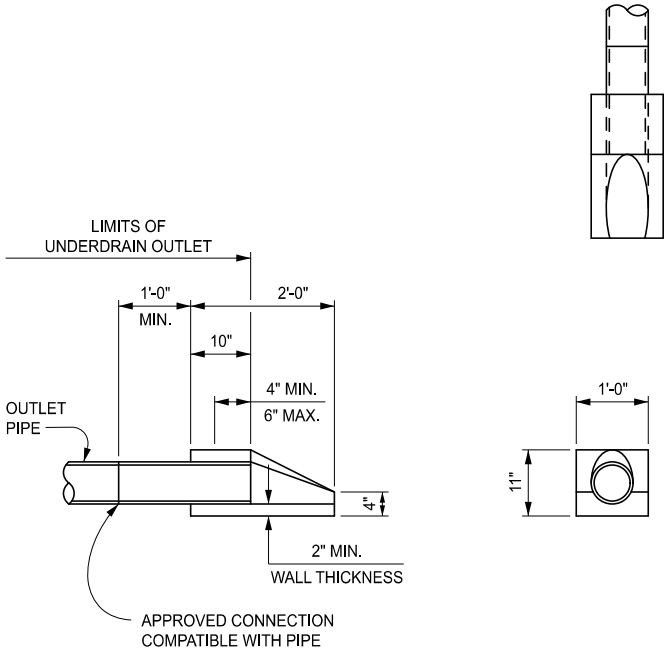


STEEL END SECTION FOR 4" OR 6" PIPE

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS			
	(SPECIAL DETAIL) FHWA APPROVAL	06/28/2021 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 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AS APPROVED BY THE ENGINEER.

CONNECTIONS, IF REQUIRED WITHIN THE OUTLET PIPE, SHALL BE ACCORDING TO APPLICABLE ASTM SPECIFICATIONS REFERENCED IN THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. THEY SHALL BE WATER TIGHT, AND OF THE SAME MATERIAL AS THE OUTLET PIPE.

OUTLET CONNECTIONS TO DRAINAGE STRUCTURES SHALL BE ACCORDING TO STANDARD SPECIFICATIONS FOR CONSTRUCTION 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.

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DEPARTMENT DIRECTOR
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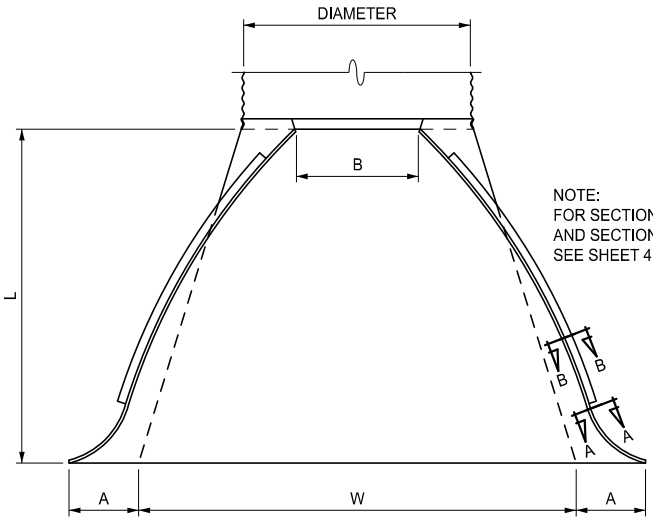
STANDARD PLAN FOR
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS

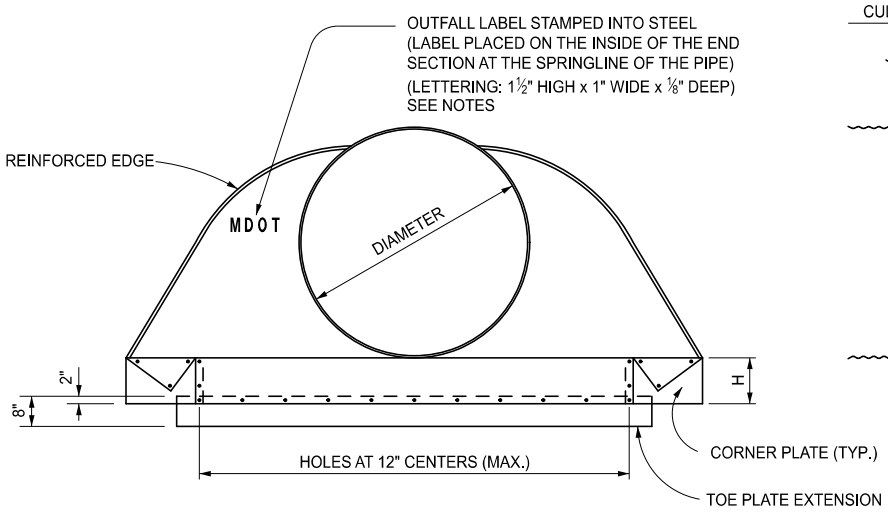
(SPECIAL DETAIL) / FHWA APPROVAL	06/28/2021 / PLAN DATE	R-80-F	SHEET 8 OF 8



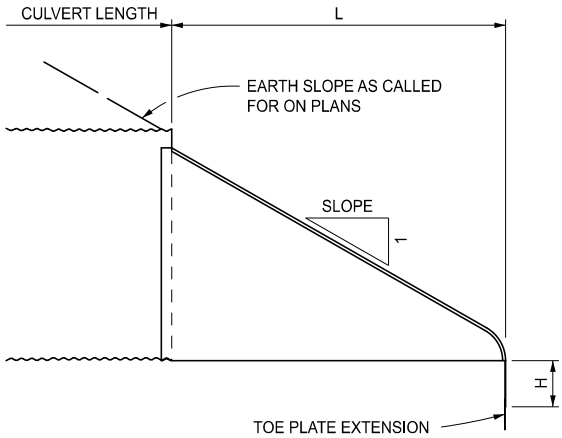
PLAN VIEW

DIMENSIONS								
DIMENSIONS IN INCHES							APPROX SLOPE	BODY
PIPE DIAMETER	MIN. THK.	A ± 1"	B MAX.	H ± 1"	L ± 1½"	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 ⅜" DIAMETER GALVANIZED RIVETS OR BOLTS.



END VIEW



LONGITUDINAL VIEW

NOTE: SEE SHEET 3 FOR CONNECTION DETAILS

STEEL END SECTION FOR CORRUGATED STEEL CIRCULAR PIPE

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

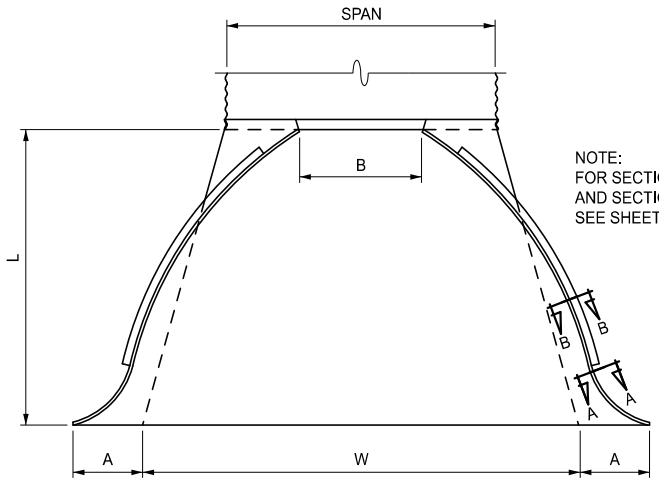
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
STEEL END SECTION

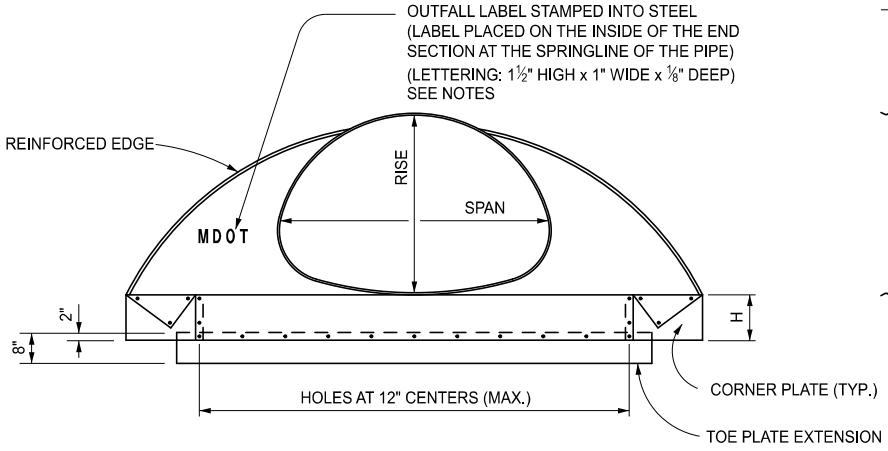
(SPECIAL DETAIL) FHWA APPROVAL	03/07/2023 PLAN DATE	R-88-E	SHEET 1 OF 4



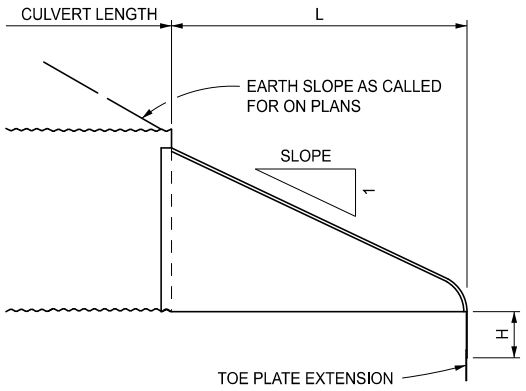
PLAN VIEW

DIMENSIONS								
DIMENSIONS IN INCHES							APPROX SLOPE	BODY
SPAN / RISE	MIN. THK.	A ± 1"	B MAX.	H ± 1"	L ± 1½"	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 ⅜" DIAMETER GALVANIZED RIVETS OR BOLTS.



END VIEW



LONGITUDINAL VIEW

NOTE: SEE SHEET 3 FOR CONNECTION DETAILS

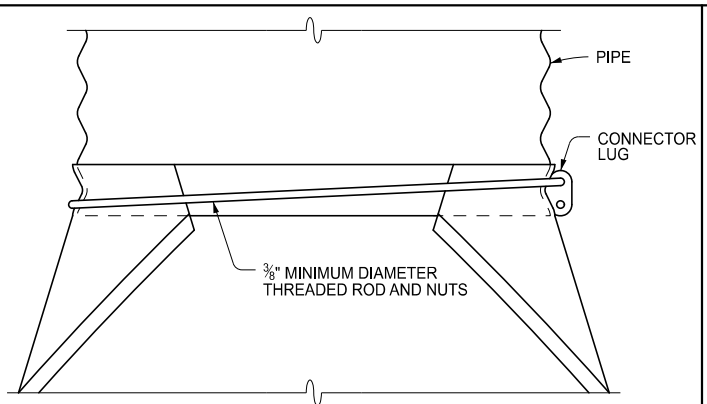
STEEL END SECTION FOR CORRUGATED STEEL PIPE ARCHES

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

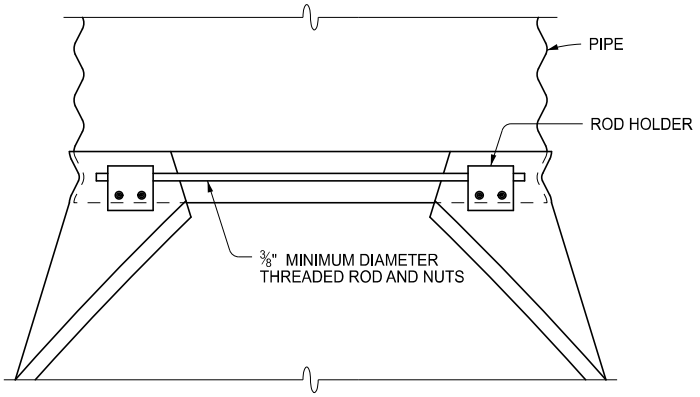
STANDARD PLAN FOR
STEEL END SECTION

(SPECIAL DETAIL) FHWA APPROVAL	03/07/2023 PLAN DATE	R-88-E	SHEET 2 OF 4



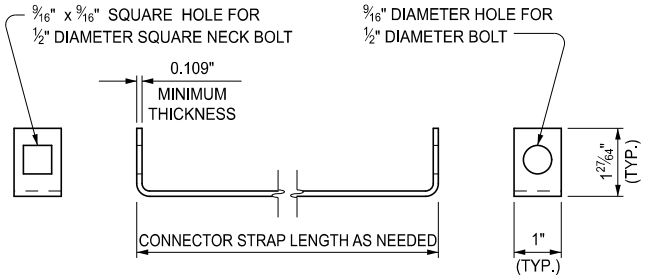
TYPE 1 CONNECTOR

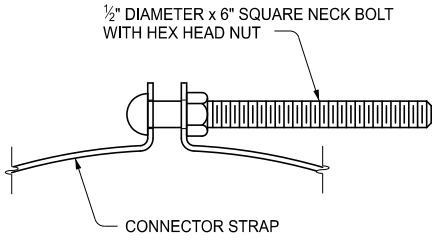
FOR USE ON CIRCULAR PIPE DIAMETERS 12" THROUGH 24"

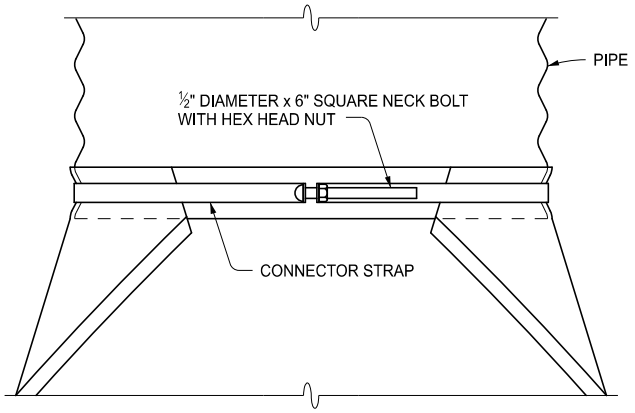


TYPE 2 CONNECTOR

FOR USE ON CIRCULAR PIPE DIAMETERS 30" AND 36"
AND FOR ARCH PIPE SIZES 35" x 24" AND 42" x 29"

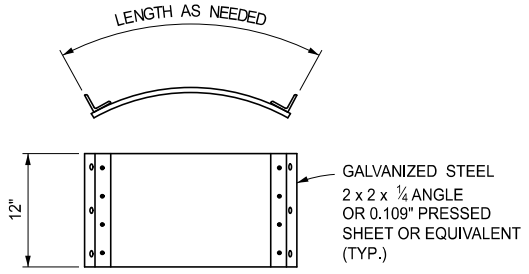






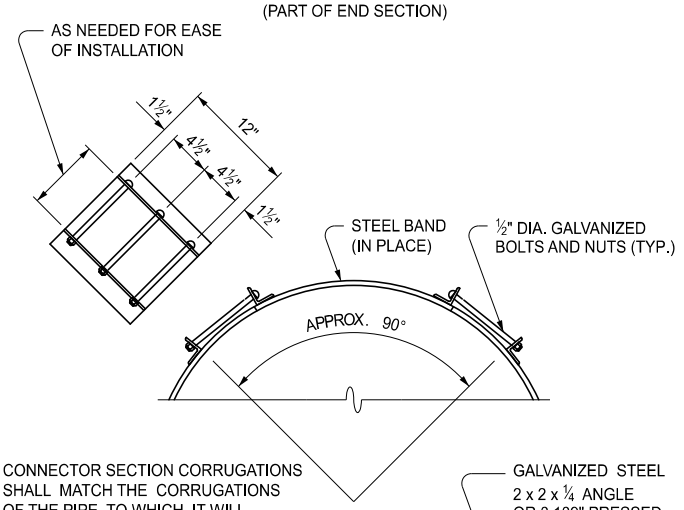
TYPE 1A CONNECTOR

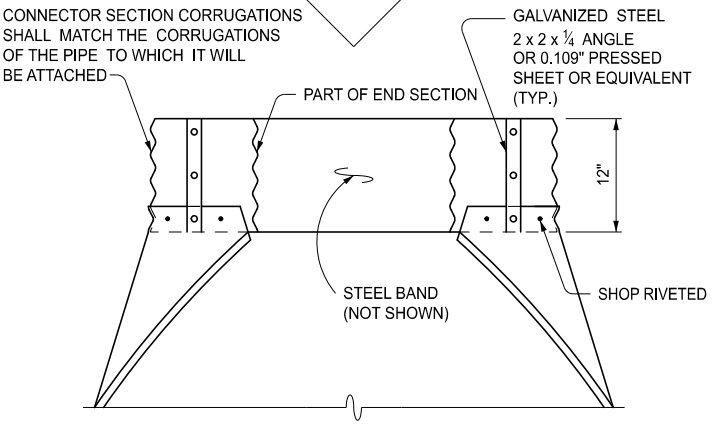
FOR USE ON CIRCULAR PIPE DIAMETERS 12" THROUGH 24"
AND FOR ARCH PIPE SIZES 17" x 13" THROUGH 28" x 20"



STEEL BAND

(PART OF END SECTION)





TYPE 3 CONNECTOR

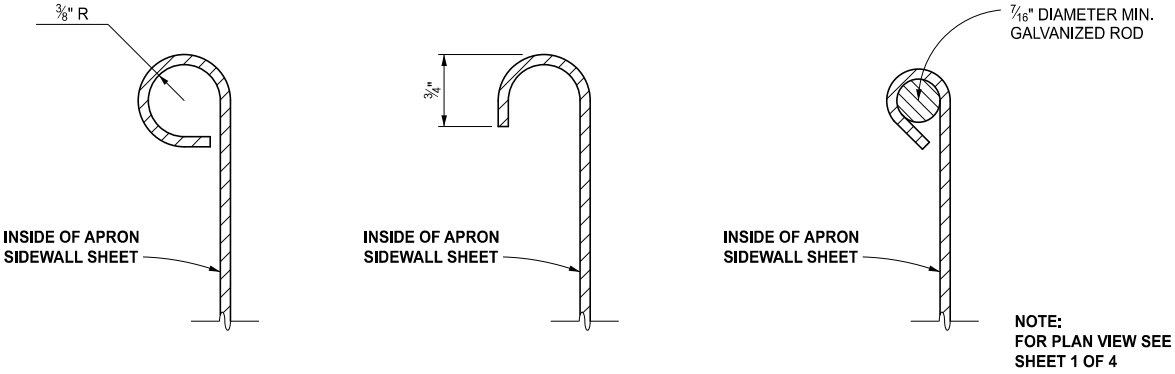
FOR USE ON CIRCULAR PIPE DIAMETERS 42" THROUGH 84"
AND FOR ARCH PIPE SIZES 49" x 33" THROUGH 83" x 57"

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

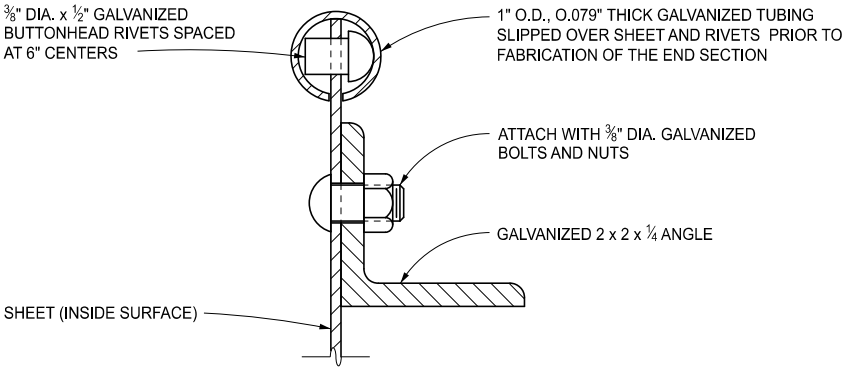
STANDARD PLAN FOR
STEEL END SECTION

(SPECIAL DETAIL)	03/07/2023	R-88-E	SHEET
FHWA APPROVAL	PLAN DATE		3 OF 4



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.

MDOT Michigan Department of Transportation

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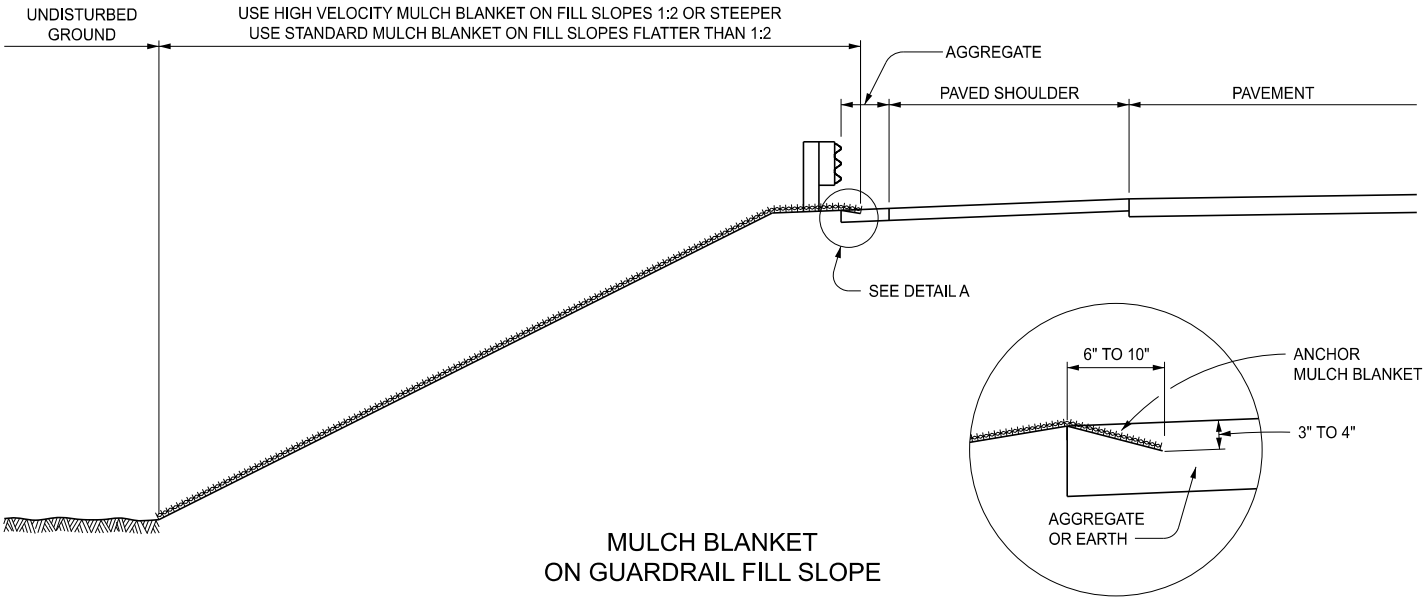
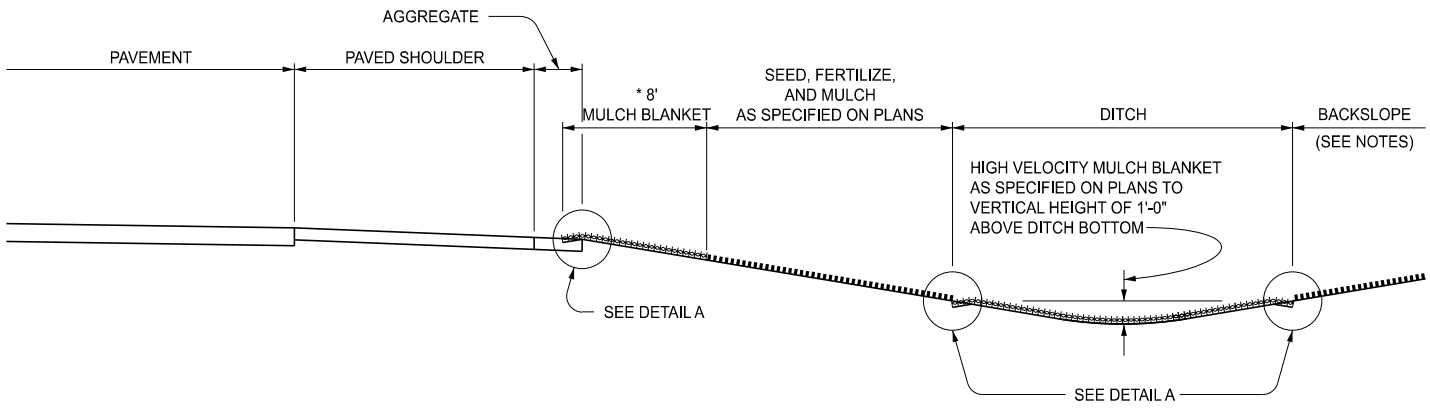
STANDARD PLAN FOR
STEEL END SECTION

(SPECIAL DETAIL) FHWA APPROVAL	03/07/2023 PLAN DATE	R-88-E	SHEET 4 OF 4

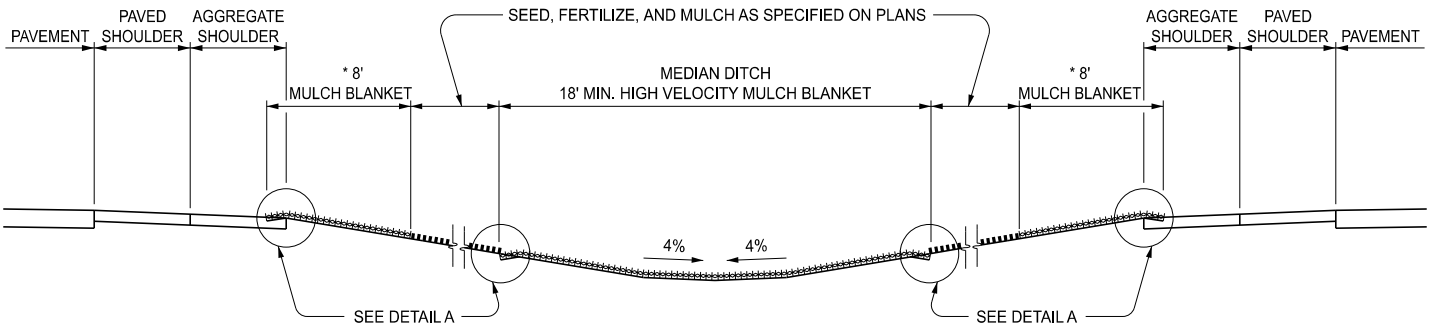


MULCH BLANKET
ON GUARDRAIL FILL SLOPE

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%.

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

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Michigan Department of Transportation

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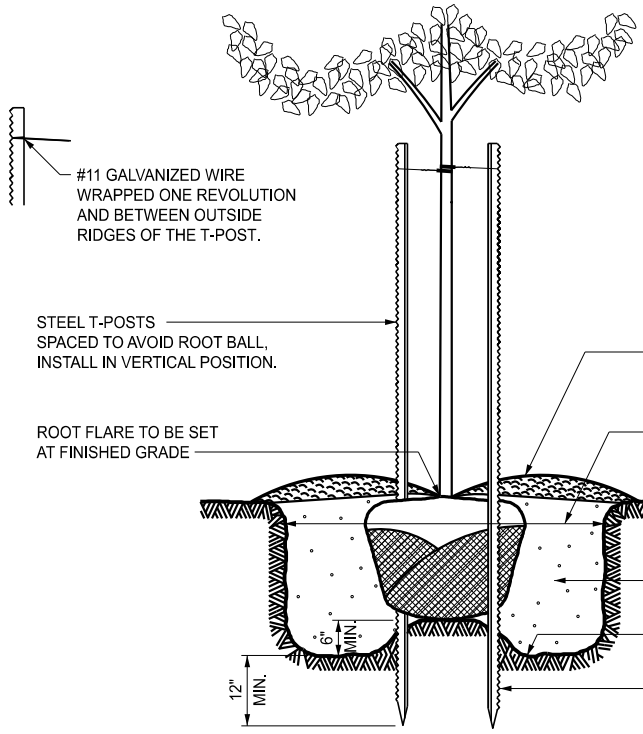
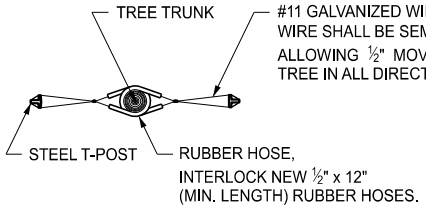
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SEEDING AND TREE PLANTING

(SPECIAL DETAIL)	12/08/2023	R-100-I	SHEET
FHWA APPROVAL	PLAN DATE		1 OF 4



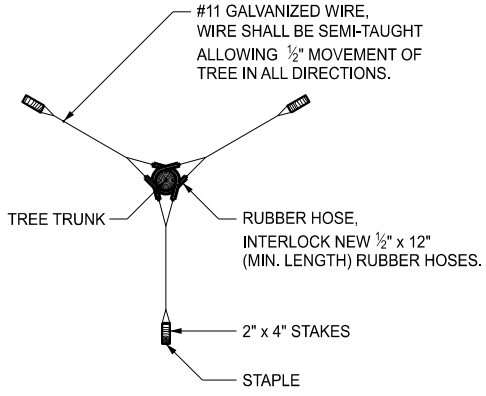
BRACING - VERTICAL STAKES



BRACING DETAIL

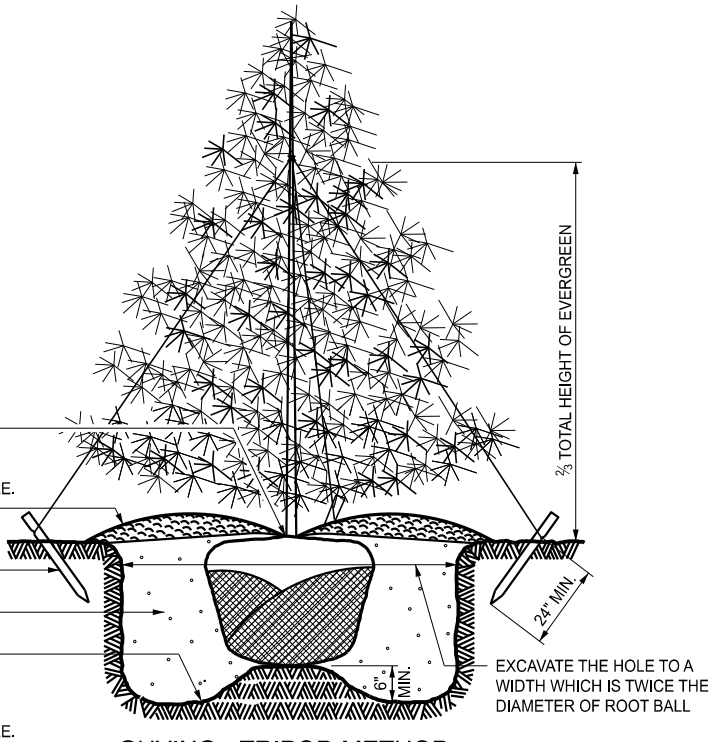
BRACE DECIDUOUS TREES 2" TO 4" IN CALIPER OR 8' OR MORE IN HEIGHT WITH TWO STAKES.

BRACE DECIDUOUS TREES LESS THAN 2" IN CALIPER OR 8' IN HEIGHT WITH ONE STAKE ON THE WESTERLY SIDE OF THE PLANT.

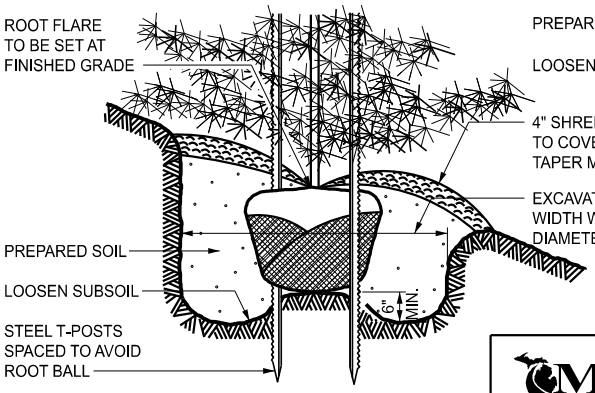


TRIPOD GUYING DETAIL

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

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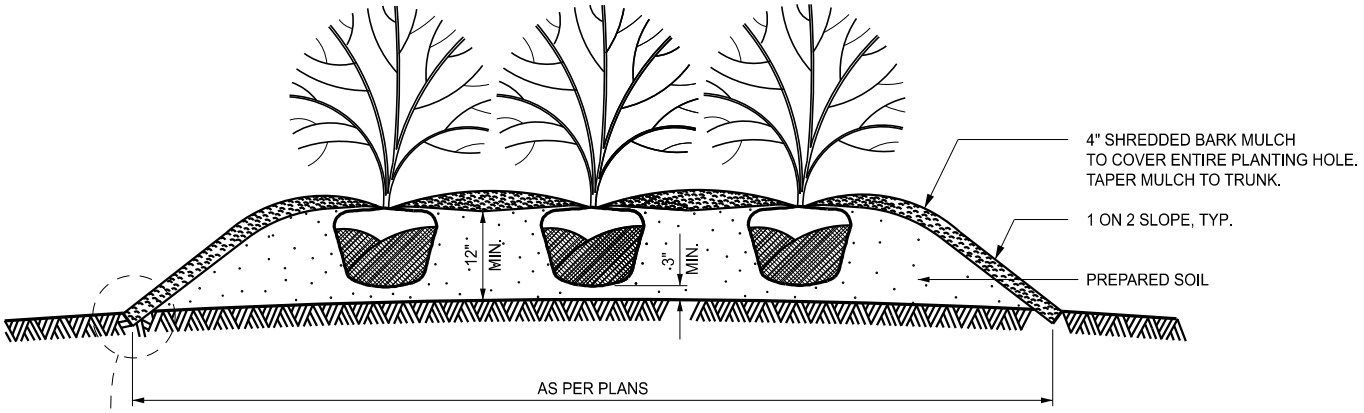
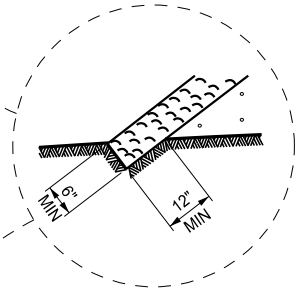
STANDARD PLAN FOR
SEEDING AND TREE PLANTING

(SPECIAL DETAIL) / FHWA APPROVAL	12/08/2023 / PLAN DATE	R-100-I	SHEET 2 OF 4



RAISED SHRUB BED DETAIL



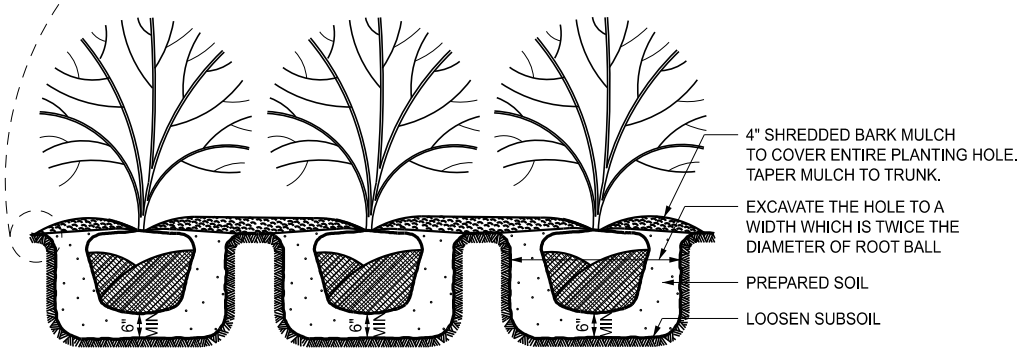
SHRUB BED EDGING DETAIL

FIRST AND SECOND WATERING AND CULTIVATION SHALL INCLUDE SHRUB BEDS.

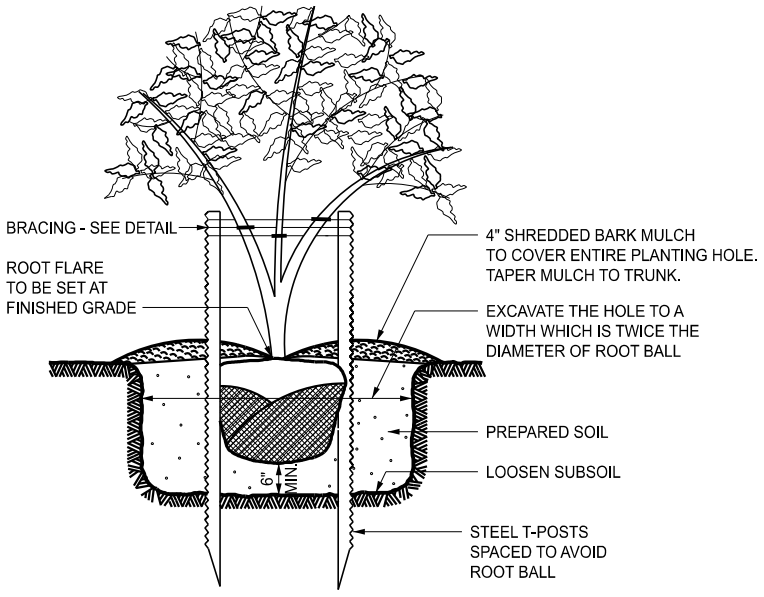
CUT 6" x 12" (MIN.) EDGING AROUND THE PERIMETER OF ALL SHRUB BEDS SHOWN ON THE PLANS. SPRAY A NON-PERSISTANT GLYPHOSATE HERBICIDE TO ENTIRE SHRUB BEDS PRIOR TO PLANTING AND BARK PLACEMENT.

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.



SHRUB BED DETAIL



MULTIPLE STEM TREES

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 ½ 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.

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Michigan Department of Transportation

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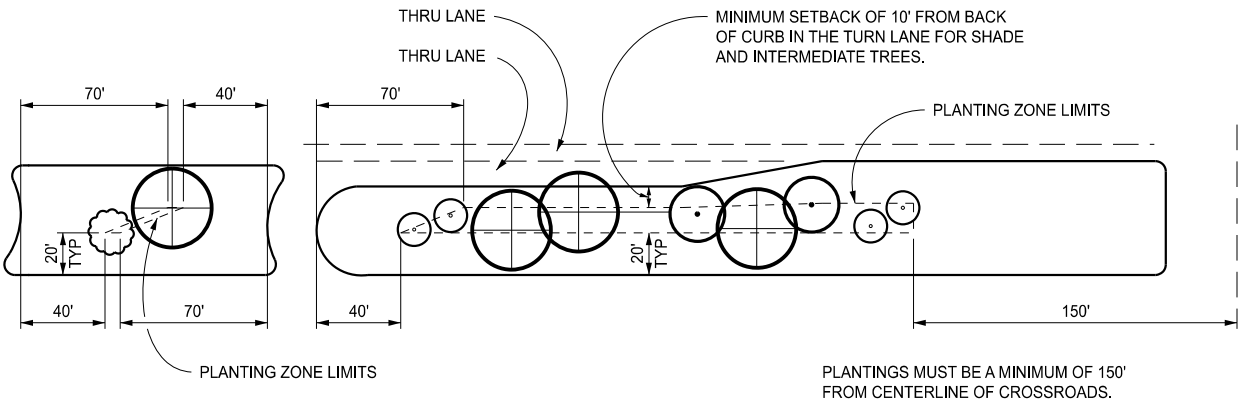
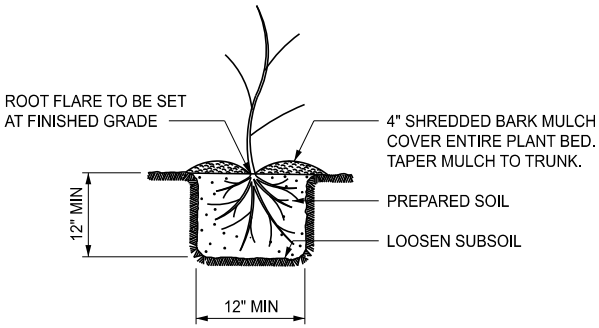
STANDARD PLAN FOR
SEEDING AND TREE PLANTING

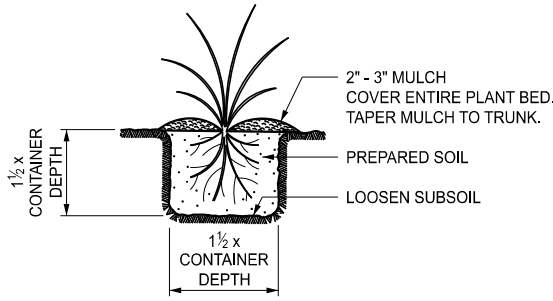
(SPECIAL DETAIL) / FHWA APPROVAL	12/08/2023 / PLAN DATE	R-100-I	SHEET 3 OF 4



MEDIAN PLANTING
NOT TO SCALE



BARE ROOT PLANTS



PERENNIAL 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 IMMERSED 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 ACCOMODATE 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.

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 THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

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.

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STANDARD PLAN FOR
SEEDING AND TREE PLANTING

(SPECIAL DETAIL)	12/08/2023	R-100-I	SHEET
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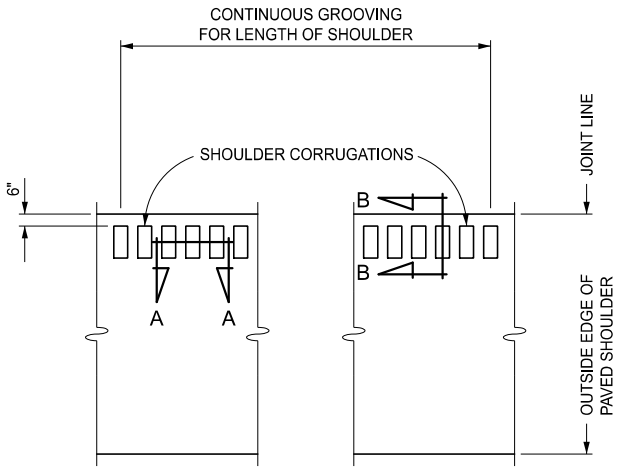
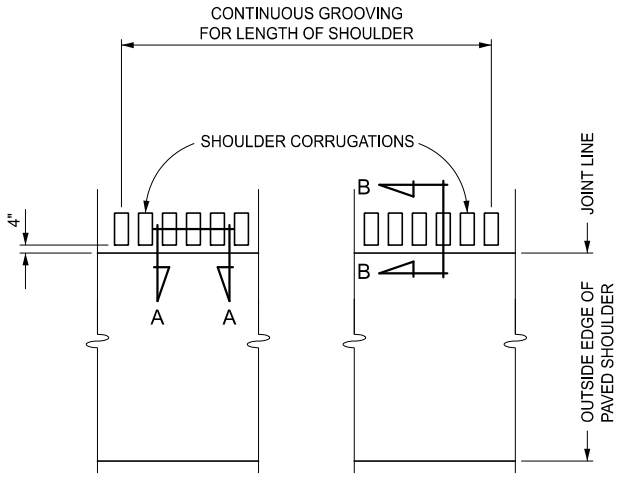
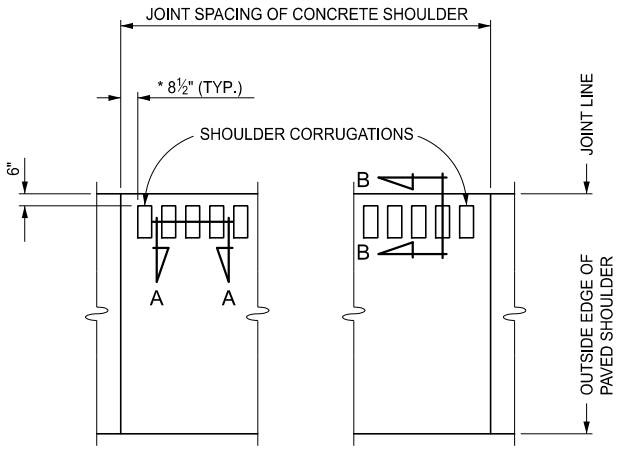


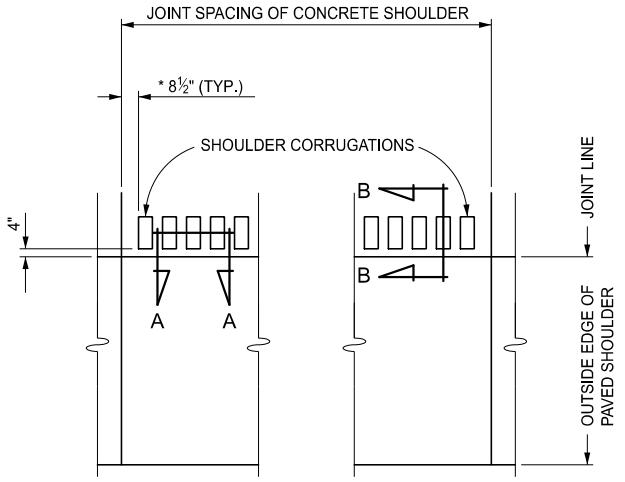
HMA SHOULDER PLAN
ADJACENT TO 12' LANE



HMA SHOULDER PLAN
ADJACENT TO 14' LANE



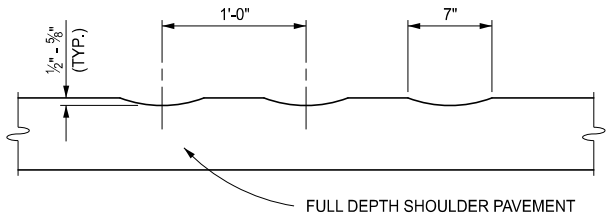
CONCRETE SHOULDER PLAN
ADJACENT TO 12' LANE



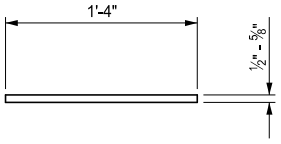
CONCRETE SHOULDER PLAN
ADJACENT TO 14' LANE

* 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)

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

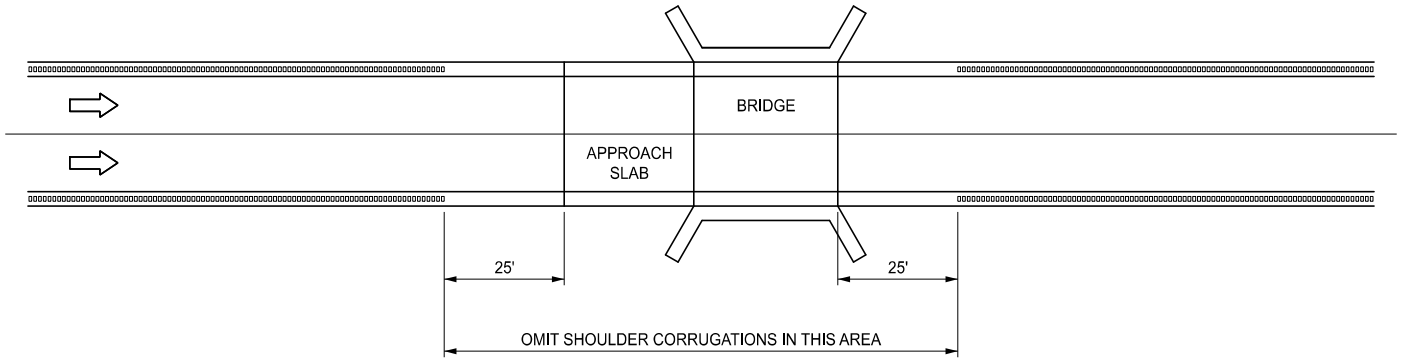
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SHOULDER AND CENTER LINE CORRUGATIONS

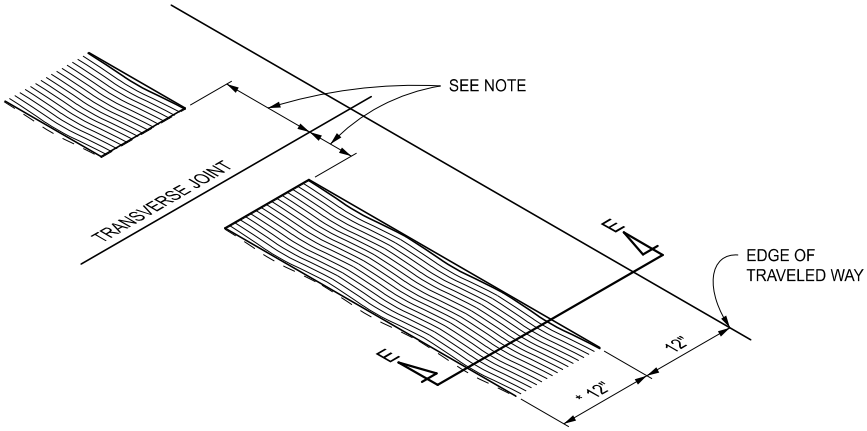
(SPECIAL DETAIL) / FHWA APPROVAL	08/02/2023 / PLAN DATE	R-112-J	SHEET 1 OF 10



SHOULDER CORRUGATIONS AT BRIDGES

FREEWAY SHOULDER CORRUGATIONS

(FOR FREEWAY SHOULDERS PAVED 4 FEET OR GREATER)

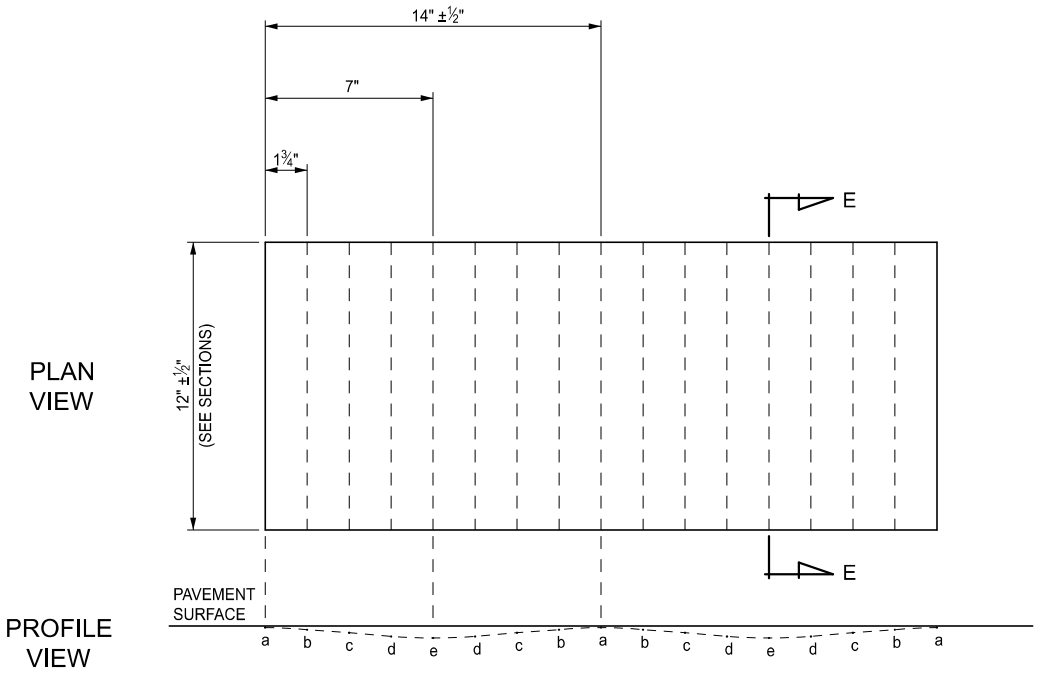


TYPICAL NON-FREEWAY
SHOULDER CORRUGATION INSTALLATION

* 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".

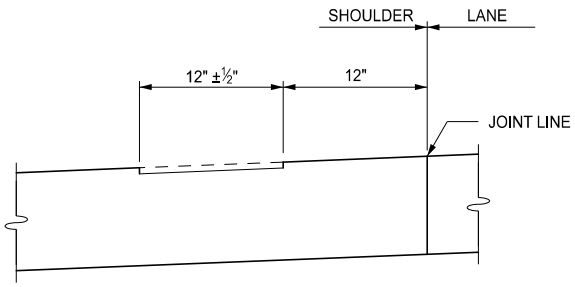


PLAN VIEW

PROFILE VIEW

	DEPTH AT EDGE	
LOCATION	MILS	INCHES *
a	62.5	1/16
b	156	5/32
c	281	9/32
d	438	7/16
e	500	½

* +⅛"



SECTION E-E

CONCRETE & HMA
SHOULDER

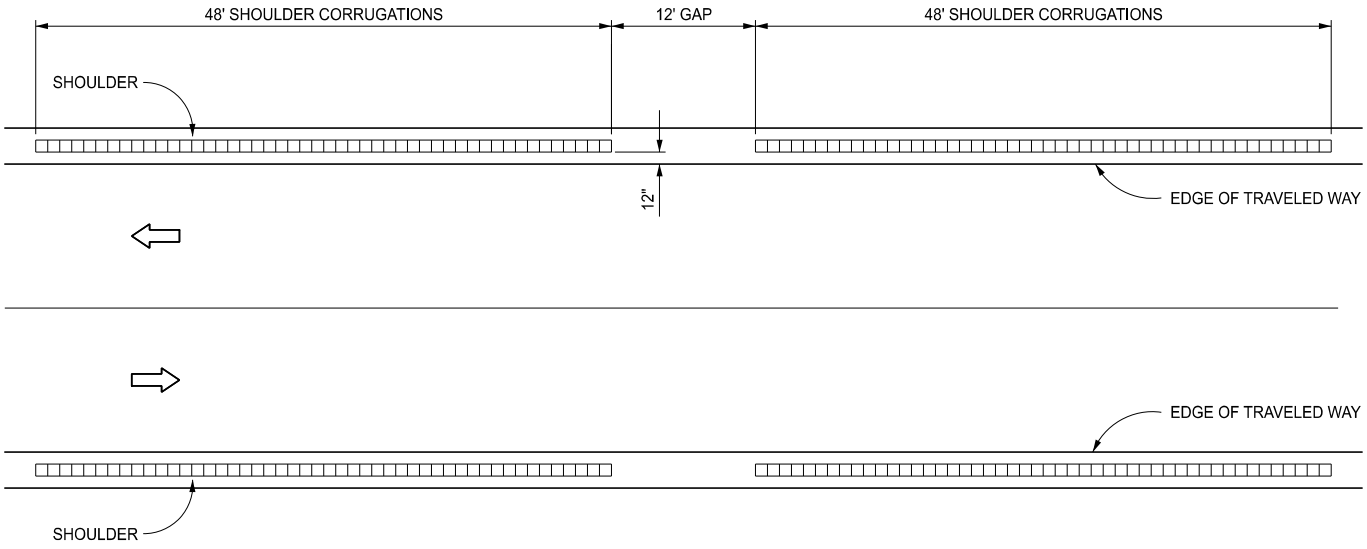
SINUSOIDAL CORRUGATIONS

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SHOULDER AND CENTER LINE CORRUGATIONS

(SPECIAL DETAIL) / FHWA APPROVAL	08/02/2023 / PLAN DATE	R-112-J	SHEET 3 OF 10

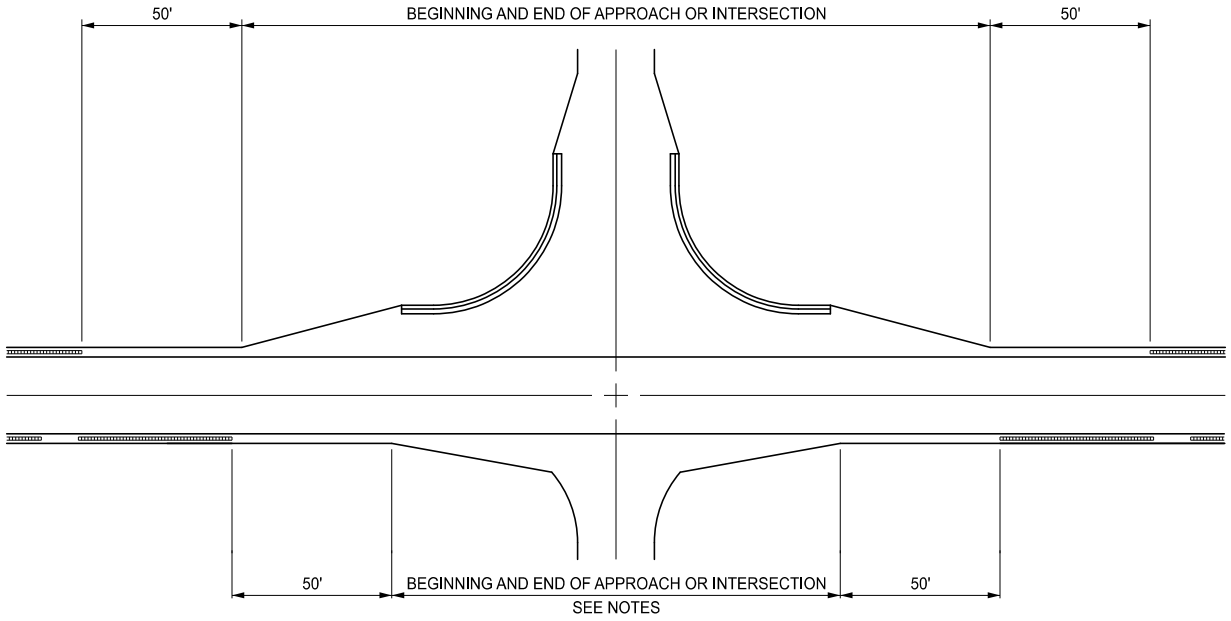


SHOULDER CORRUGATIONS ON TWO-WAY ROADWAYS

NON-FREEWAY SHOULDER CORRUGATIONS

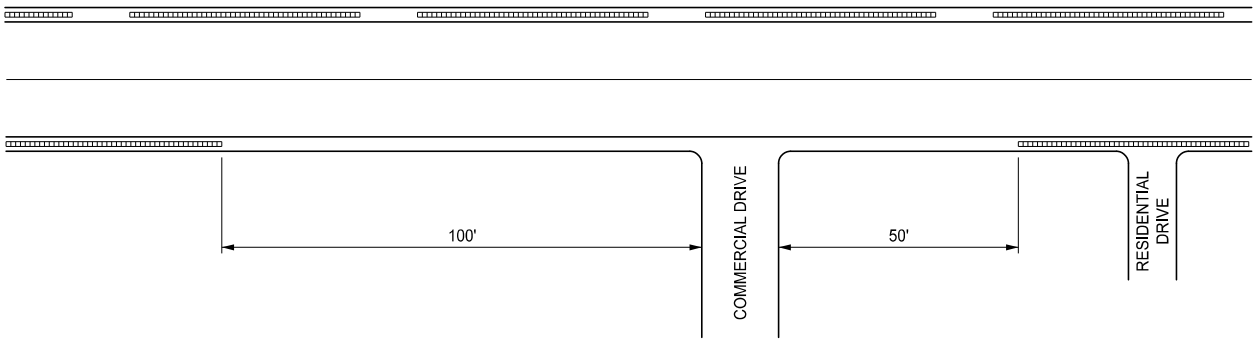
(FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/02/2023 PLAN DATE	R-112-J	SHEET 4 OF 10

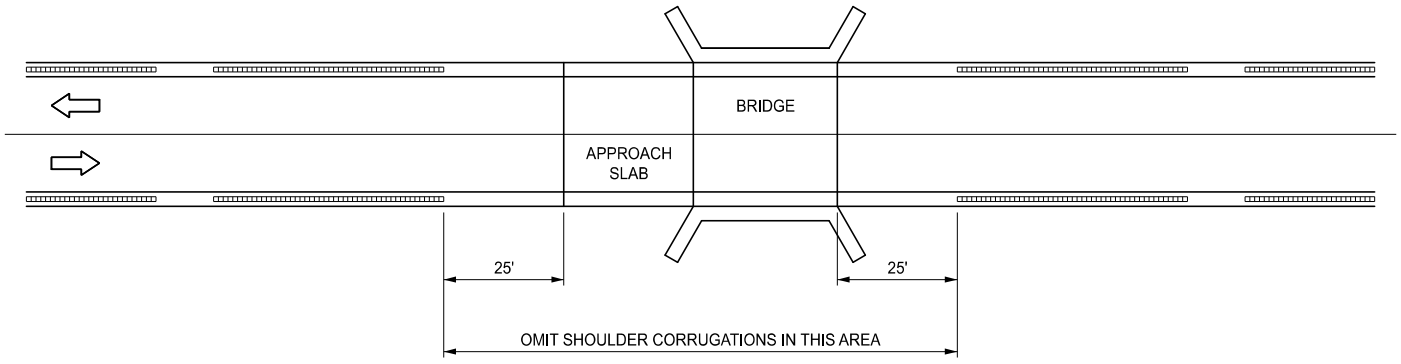


NOTE:

SHOULDER CORRUGATIONS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVES, WHEN DIRECTED BY THE ENGINEER.



SHOULDER CORRUGATIONS AT INTERSECTIONS

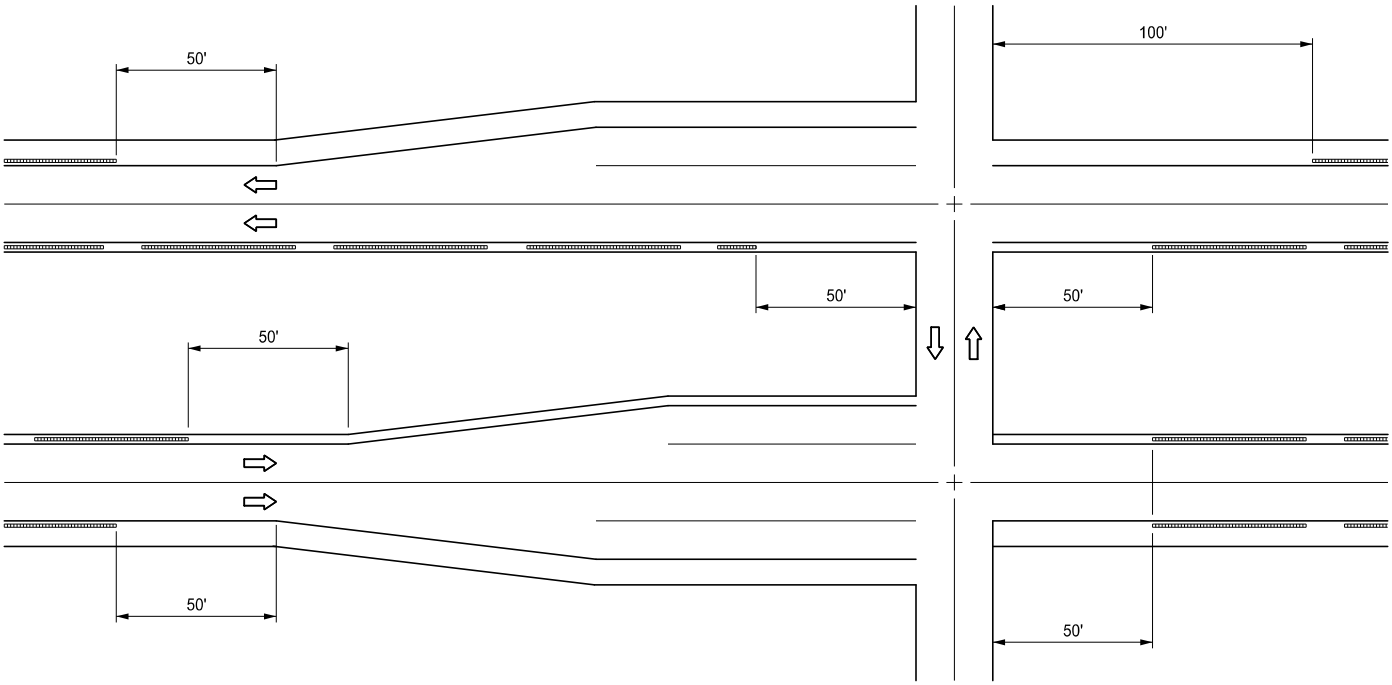


SHOULDER CORRUGATIONS AT BRIDGES

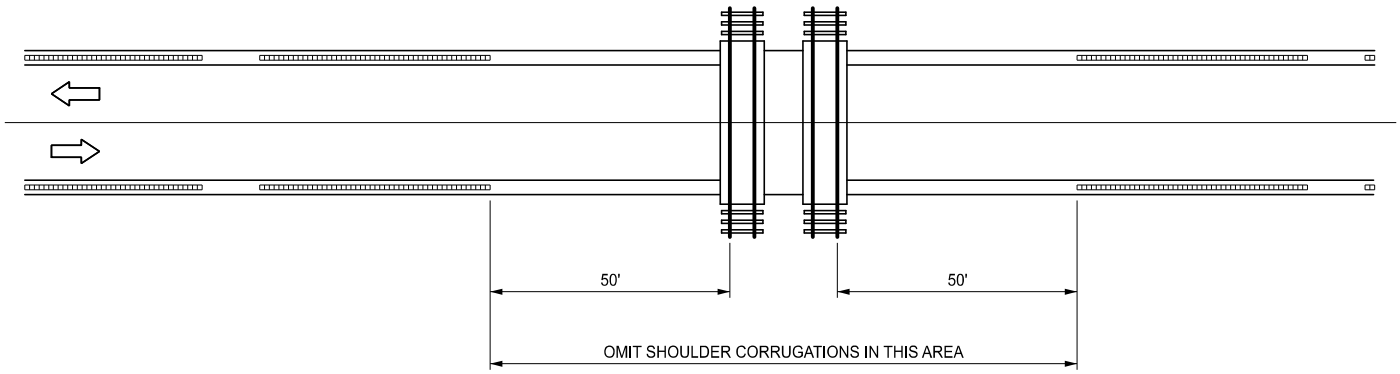
NON-FREEWAY SHOULDER CORRUGATIONS

(FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/02/2023 PLAN DATE	R-112-J	SHEET 5 OF 10



SHOULDER CORRUGATIONS AT INTERSECTIONS

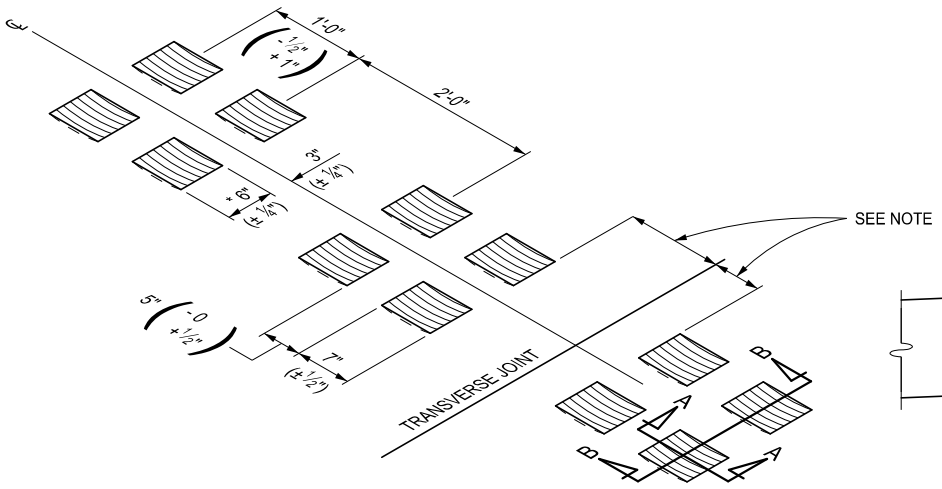


SHOULDER CORRUGATIONS AT RAILROADS

NON-FREEWAY SHOULDER CORRUGATIONS

(FOR NON-FREEWAY SHOULDERS PAVED 6 FEET OR GREATER)

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/02/2023 PLAN DATE	R-112-J	SHEET 6 OF 10



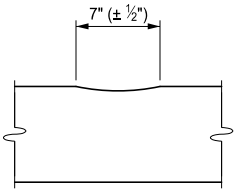
TYPICAL NON-FREEWAY CENTER LINE CORRUGATION INSTALLATION FOR CONCRETE PAVEMENT

* LATERAL DEVIATION SHALL NOT EXCEED 1" IN 100'.

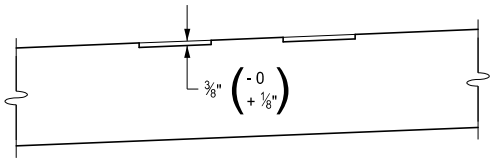
NOTES:

ON CONCRETE PAVEMENTS, THE DISTANCE FROM A CENTER LINE CORRUGATION TO A TRANSVERSE JOINT SHALL BE AT LEAST 6" BUT LESS THAN 12".

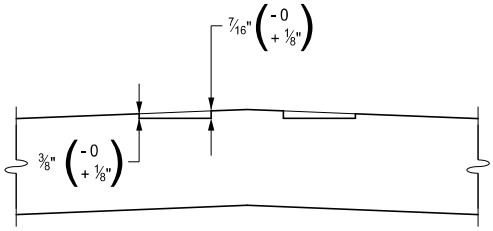
ON CONCRETE PAVEMENTS, CORRUGATIONS MAY BE CONSTRUCTED IN TWO PASSES AND THEREFORE NOT BE SYMMETRICAL ACROSS THE CENTER LINE.



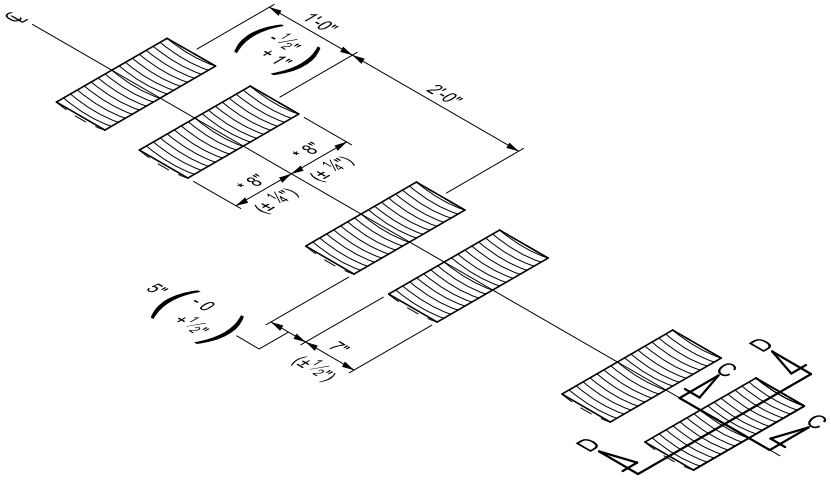
SECTION A-A



SECTION B-B
SUPERELEVATED ROADWAY

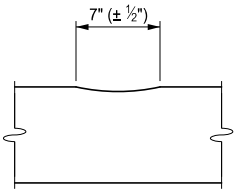


SECTION B-B
CROWNED ROADWAY

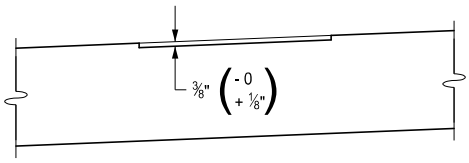


TYPICAL NON-FREEWAY CENTER LINE CORRUGATION INSTALLATION FOR HMA PAVEMENT

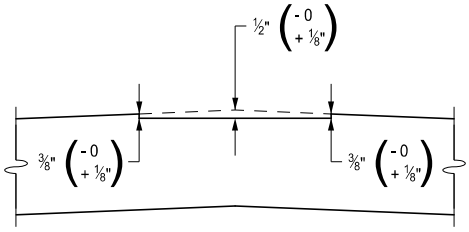
* LATERAL DEVIATION SHALL NOT EXCEED 1" IN 100'.



SECTION C-C



SECTION D-D
SUPERELEVATED ROADWAY



SECTION D-D
CROWNED ROADWAY

NON-FREEWAY CENTER LINE CORRUGATIONS

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SHOULDER AND CENTER LINE CORRUGATIONS

(SPECIAL DETAIL)	08/02/2023	R-112-J	SHEET
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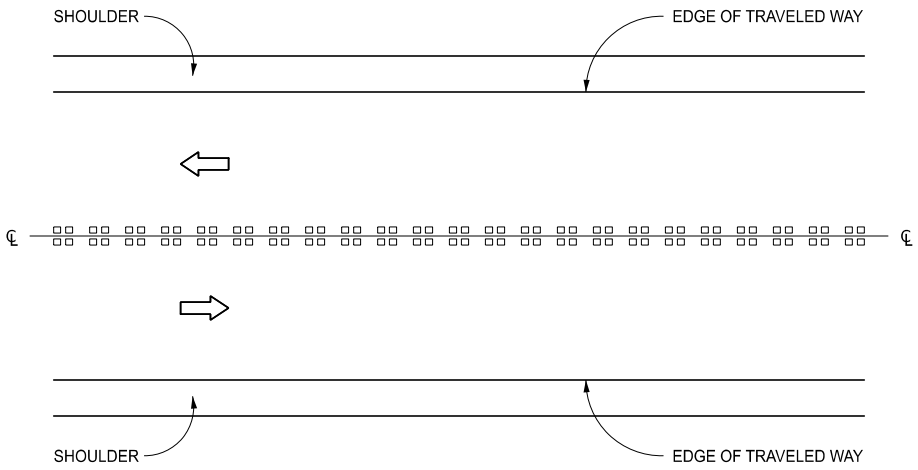
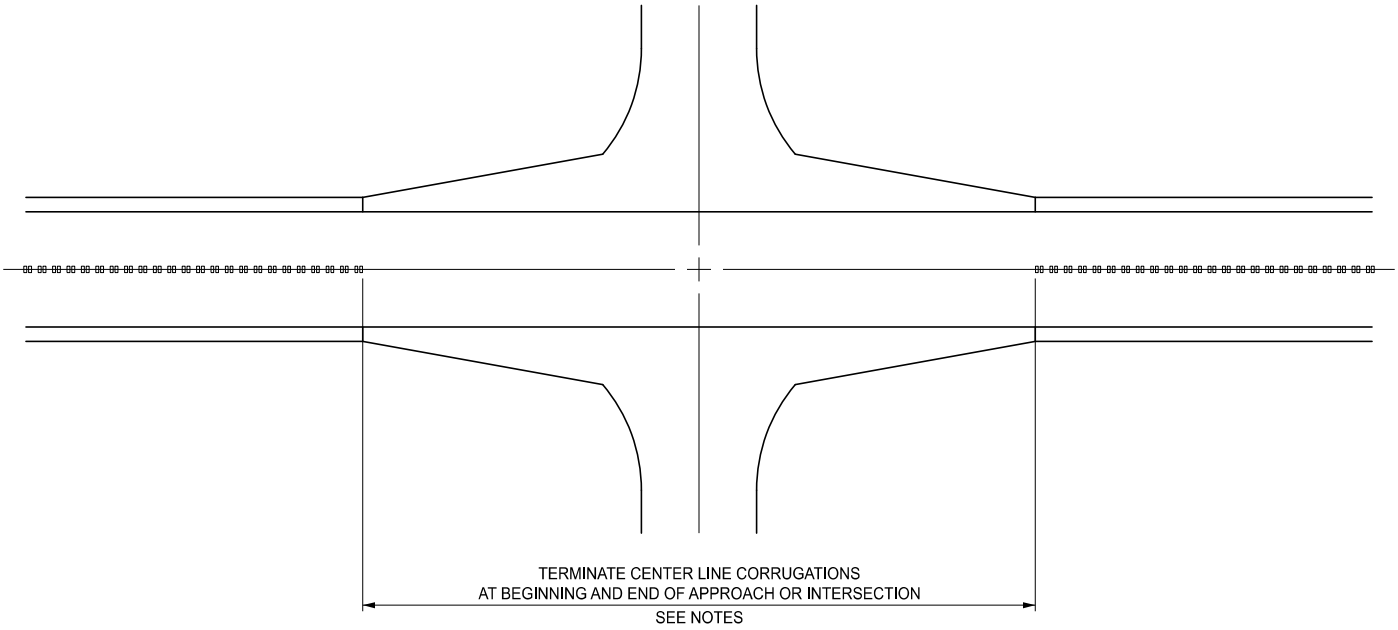


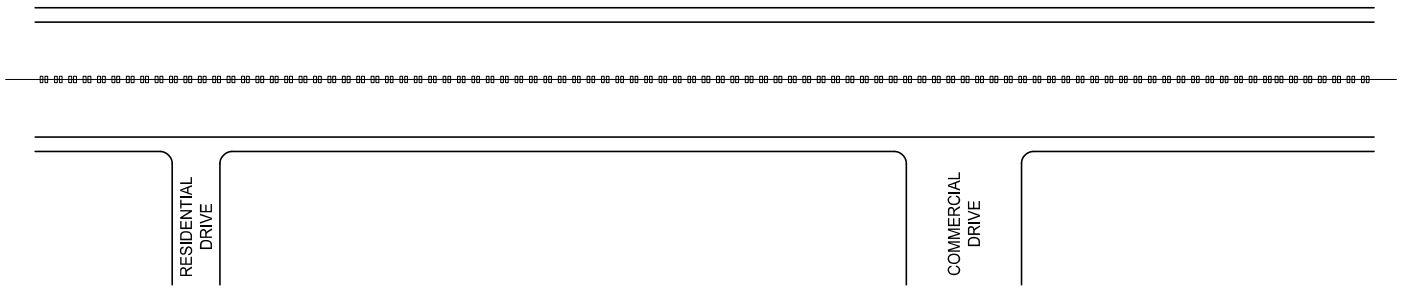
CENTER LINE CORRUGATIONS ON TWO-WAY ROADWAYS



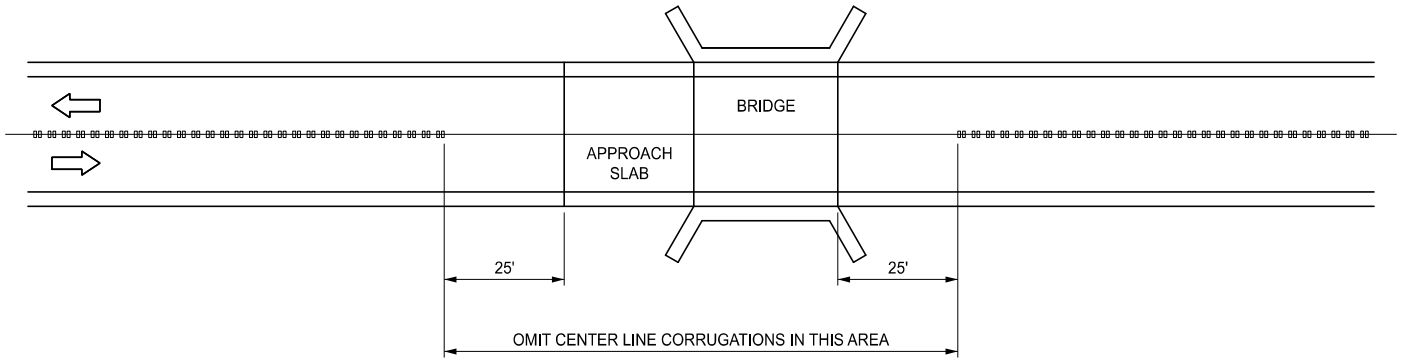
CENTER LINE CORRUGATIONS AT INTERSECTIONS

NON-FREEWAY CENTER LINE CORRUGATIONS

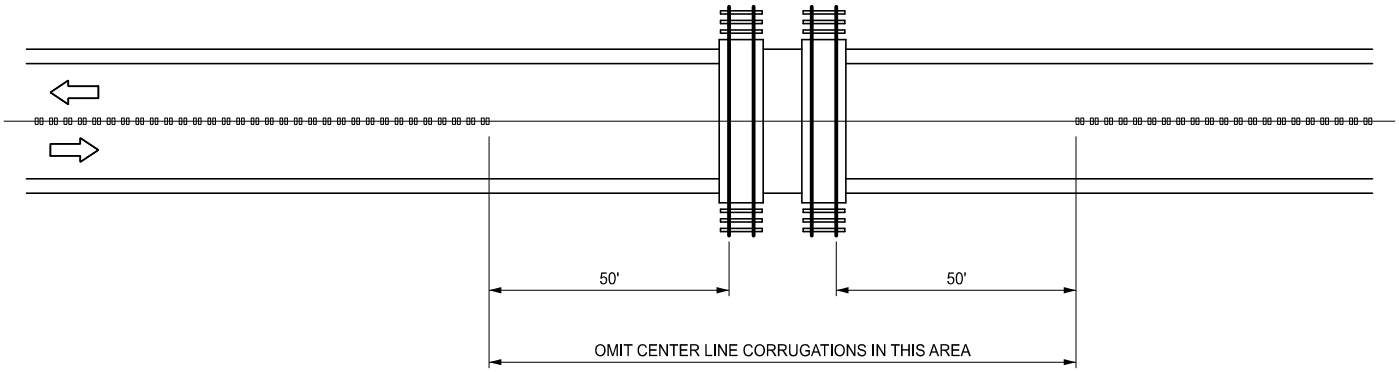
MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/02/2023 PLAN DATE	R-112-J	SHEET 8 OF 10



CENTER LINE CORRUGATIONS AT DRIVEWAYS



CENTER LINE CORRUGATIONS AT BRIDGES



CENTER LINE CORRUGATIONS AT RAILROADS

NON-FREEWAY CENTER LINE CORRUGATIONS

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR SHOULDER AND CENTER LINE CORRUGATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/02/2023 PLAN DATE	R-112-J	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 RAMPS, CORRUGATIONS WILL BE USED ON FREEWAY TO FREEWAY RAMPS.

CORRUGATIONS SHALL NOT BE PLACED OVER A TRANSVERSE SHOULDER JOINT.

CORRUGATION LOCATION IN THE AREA OF FREEWAY RAMPS 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 RAMPS AND LOOPS RAMPS 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 RAMPS WILL BE IN THE REVERSE ORDER OF THE EXIT RAMPS. FOR FREEWAY TO FREEWAY RAMPS, 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.

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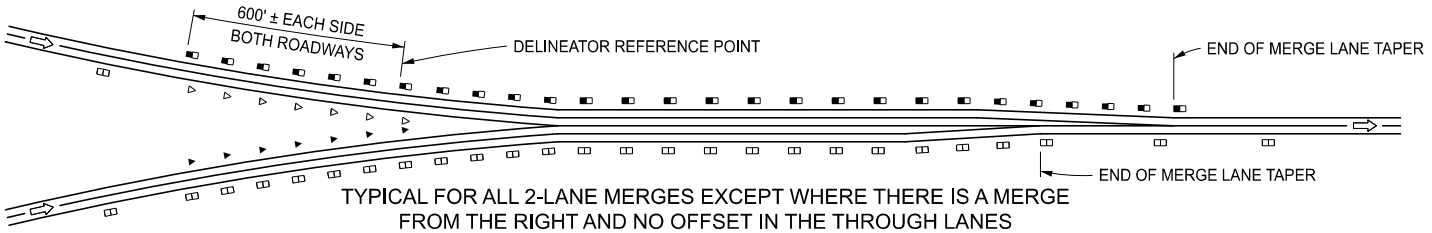
Michigan Department of Transportation

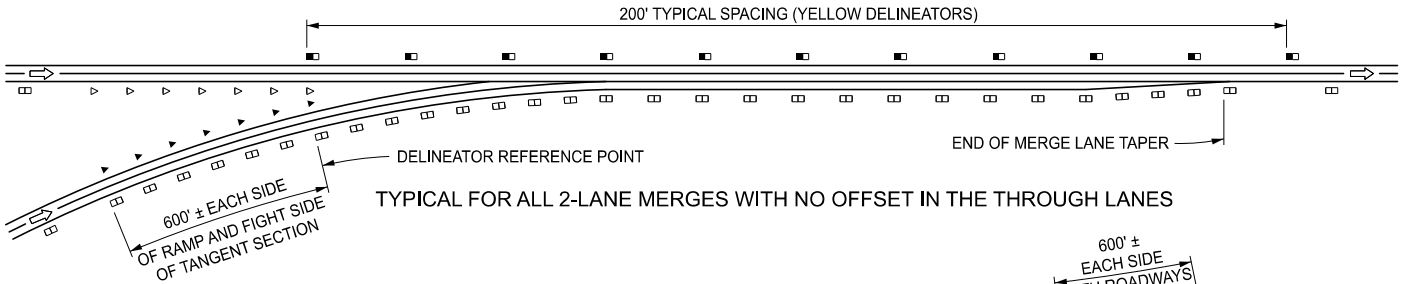
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SHOULDER AND CENTER LINE CORRUGATIONS

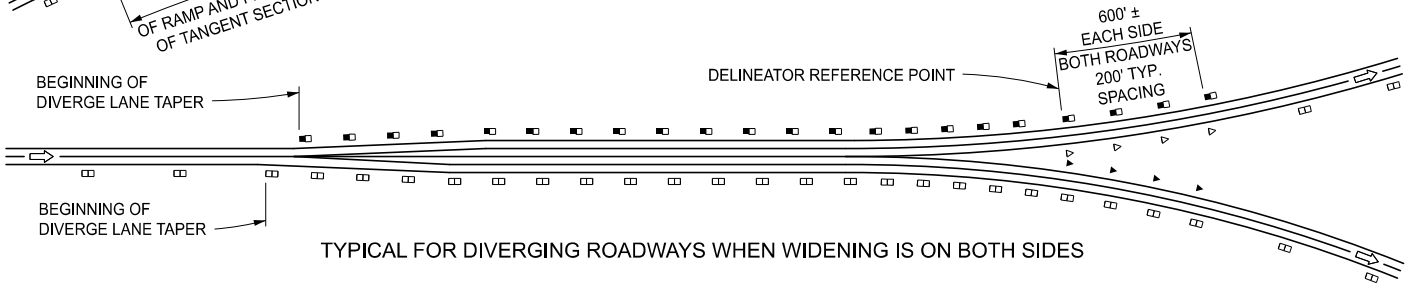
(SPECIAL DETAIL) / FHWA APPROVAL	08/02/2023 / PLAN DATE	R-112-J	SHEET 10 OF 10



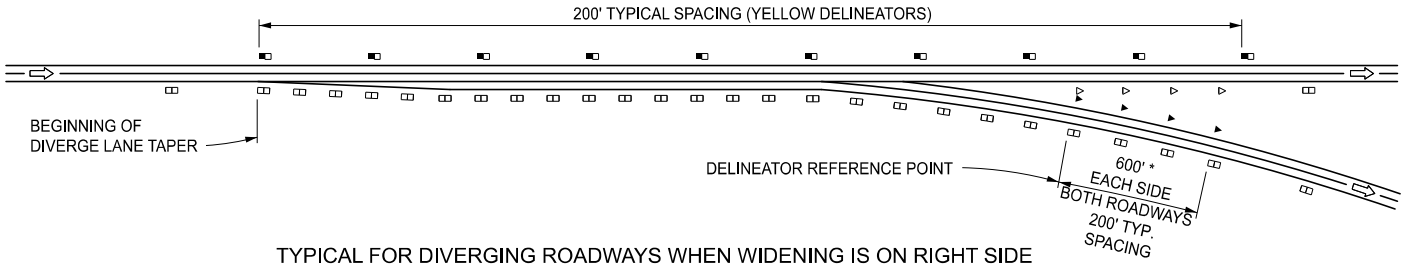
TYPICAL FOR ALL 2-LANE MERGES EXCEPT WHERE THERE IS A MERGE
FROM THE RIGHT AND NO OFFSET IN THE THROUGH LANES



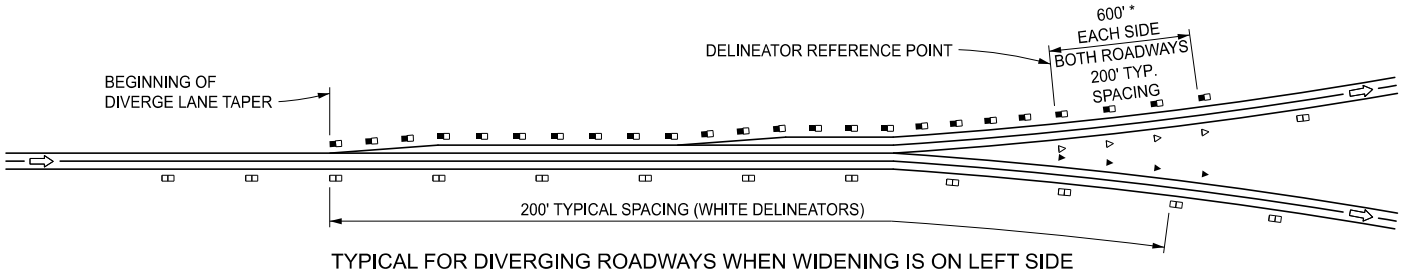
TYPICAL FOR ALL 2-LANE MERGES WITH NO OFFSET IN THE THROUGH LANES



TYPICAL FOR DIVERGING ROADWAYS WHEN WIDENING IS ON BOTH SIDES



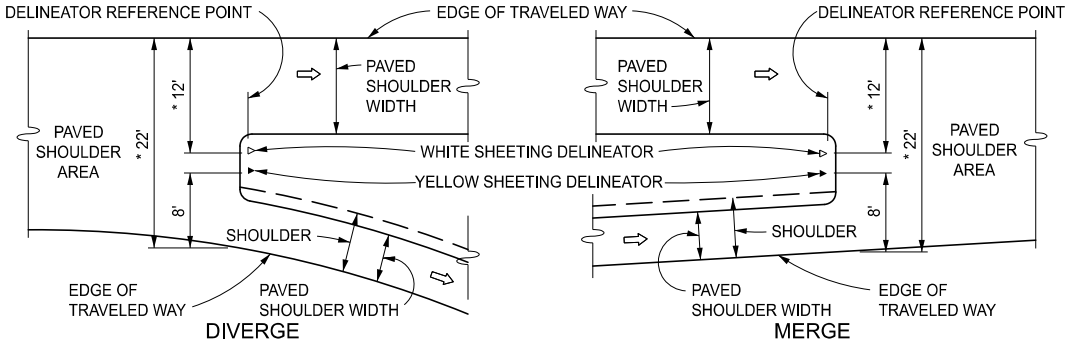
TYPICAL FOR DIVERGING ROADWAYS WHEN WIDENING IS ON RIGHT SIDE



TYPICAL FOR DIVERGING ROADWAYS WHEN WIDENING IS ON LEFT SIDE

DELINEATION OF FREEWAY TO FREEWAY CONNECTIONS

* WHEN THE PAVED SHOULDER WIDTH IS 12', PLACE DELINEATOR 14' FROM THE EDGE OF TRAVELED WAY. THE WIDTH OF THE PAVED GORE WILL BE INCREASED TO 24'.



DELINEATOR REFERENCE POINTS FOR NORMAL 10' SHOULDERS
(9' OR 10' PAVED)

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

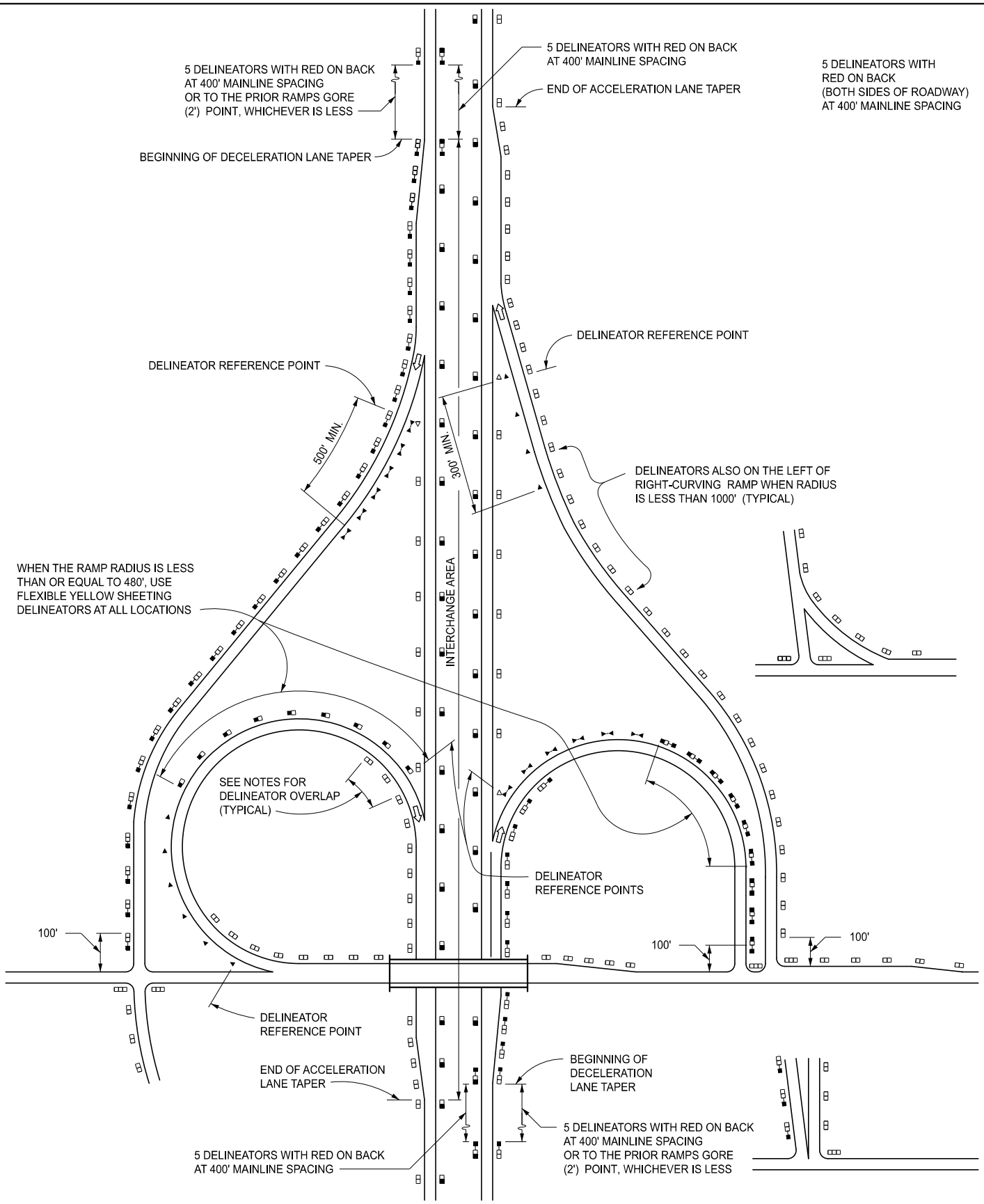
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DELINEATOR INSTALLATIONS

(SPECIAL DETAIL) FHWA APPROVAL	08/11/2023 PLAN DATE	R-127-H	SHEET 1 OF 8



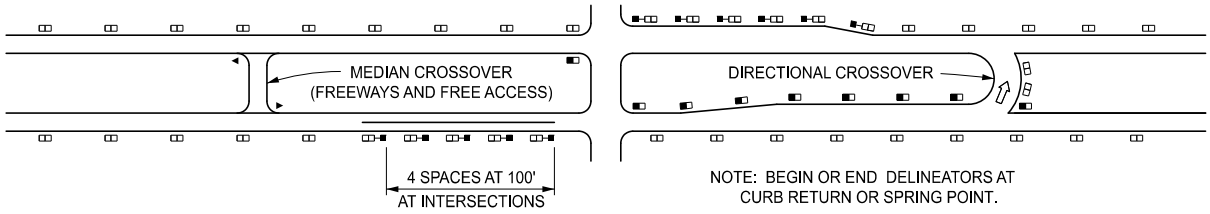
INTERCHANGE DELINEATION

MDOT Michigan Department of Transportation

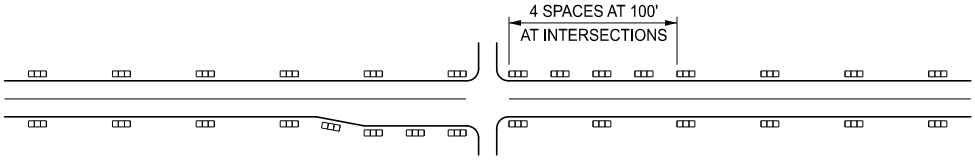
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DELINEATOR INSTALLATIONS

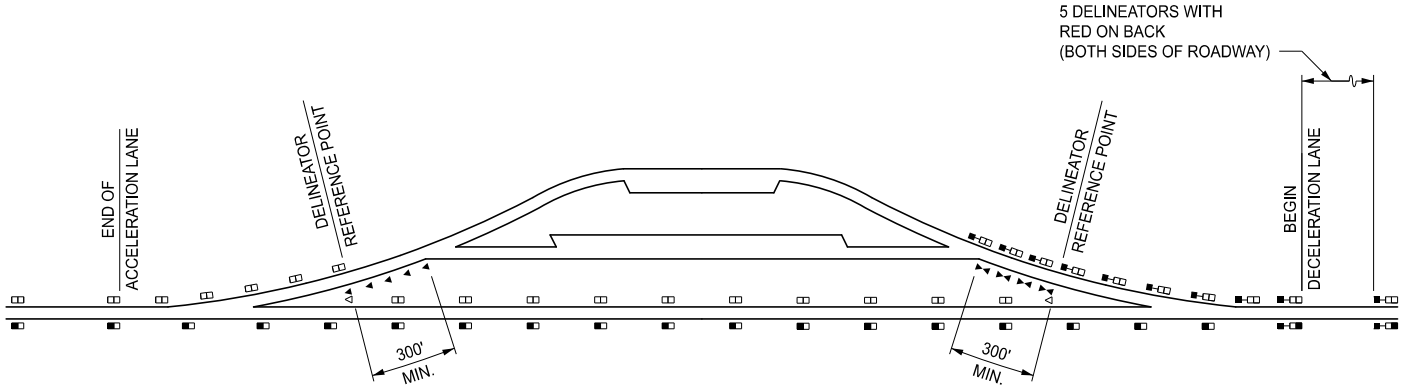
(SPECIAL DETAIL) FHWA APPROVAL	08/11/2023 PLAN DATE	R-127-H	SHEET 2 OF 8



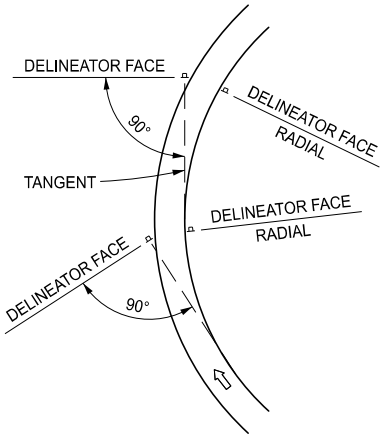
DIVIDED HIGHWAY & MEDIAN CROSSOVER



RURAL TWO-LANE TWO-WAY ROADWAYS (OPTIONAL)



REST AREA & WEIGH STATION



DELINEATOR ORIENTATION
ON HORIZONTAL CURVES
FOR ONE WAY TRAFFIC

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR DELINEATOR INSTALLATIONS		
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LEGEND

DELINEATORS INSTALLED ON RIGID STEEL POSTS

WHITE PANEL DELINEATORS:
- 400' MAXIMUM SPACING ON TANGENT AND CURVES WITH A RADIUS GREATER THAN 3500'
- 200' MAXIMUM SPACING IN INTERCHANGE AREAS
- 100' MAXIMUM SPACING ON INTERCHANGE RAMPS

YELLOW PANEL DELINEATORS:
- 200' MAXIMUM SPACING IN MERGE OR DIVERGE AREAS OF MAJOR ROADWAYS
- 100' MAXIMUM SPACING ON INTERCHANGE RAMPS
- 400' MAXIMUM SPACING ON TANGENT & CURVES WITH A RADIUS >3500' (FREEWAYS & DIVIDED HIGHWAYS WITH POSTED SPEEDS ≥ 55 MPH)
- 200' MAXIMUM SPACING IN INTERCHANGE AREAS (FREEWAYS & DIVIDED HIGHWAYS WITH POSTED SPEEDS ≥ 55 MPH)

BACK TO BACK WHITE PANEL DELINEATORS:
- 400' MAXIMUM SPACING ON TANGENT AND CURVES WITH A RADIUS GREATER THAN 3500'
- 100' MAXIMUM SPACING ALONG RIGHT TURN LANES

RED PANEL DELINEATORS ON BACK OF WHITE PANEL DELINEATORS

RED PANEL DELINEATORS ON BACK OF YELLOW PANEL DELINEATORS

GREEN PANEL DELINEATORS

DELINEATORS INSTALLED ON FLEXIBLE POSTS

3" x 12" WHITE SHEETING DELINEATORS:
- 200' MAXIMUM SPACING IN INTERCHANGE AREAS
- 100' MAXIMUM SPACING ON INTERCHANGE RAMPS

3" x 12" YELLOW SHEETING DELINEATORS:
- 200' MAXIMUM SPACING IN MERGE OR DIVERGE AREAS OF MAJOR ROADWAYS
- 100' MAXIMUM SPACING ON INTERCHANGE RAMPS
- 200' MAXIMUM SPACING IN INTERCHANGE AREAS (FREEWAYS & DIVIDED HIGHWAYS WITH POSTED SPEEDS ≥ 55 MPH)

3" x 12" RED SHEETING ON BACK OF 3" x 12" WHITE SHEETING DELINEATORS

3" x 12" RED SHEETING ON BACK OF 3" x 12" YELLOW SHEETING DELINEATORS

BACK TO BACK 3" x 12" WHITE SHEETING DELINEATORS

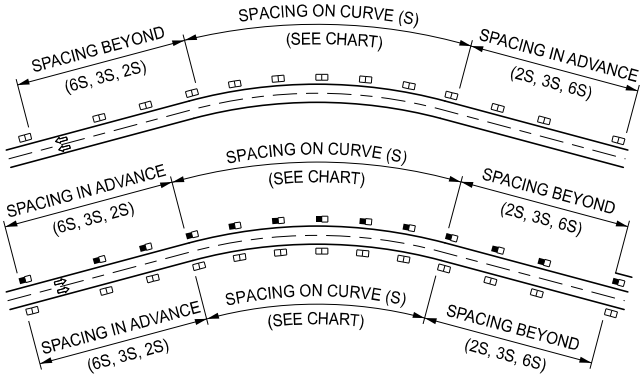
NOTE:
WHEN THE ABOVE SPACING CONFLICTS WITH THE CURVE CHARTS ON SHEET 5, USE WHICHEVER VALUE RESULTS IN THE CLOSER SPACING.

CURVE RADIUS KNOWN				
MIN. RADIUS (R) OF CURVE (FT)	SPACING (S) ON CURVE (FT)	SPACING BEFORE/AFTER CURVE		
		2S	3S	6S
50	20	40	60	120
150	30	60	90	180
230	40	80	120	240
325	50	100	150	300
450	60	120	180	300
595	70	140	210	300
760	80	160	240	300
950	90	180	270	300
1160	100	200	300	300
1395	110	220	300	300
1650	120	240	300	300
1930	130	260	300	300
2230	140	280	300	300
2550	150	300	300	300
2895	160	300	300	300
3260	170	300	300	300
3650	180	300	300	300
4060	190	300	300	300
4495	200	300	300	300
4950	210	300	300	300
5430	220	300	300	300
5930	230	300	300	300
6450	240	300	300	300
6995	250	300	300	300
7560	260	300	300	300
8150	270	300	300	300
8760	280	300	300	300
9395	290	300	300	300
10,050 - 17,830	300	300	300	300
> 17,830	NORMAL SPACING			

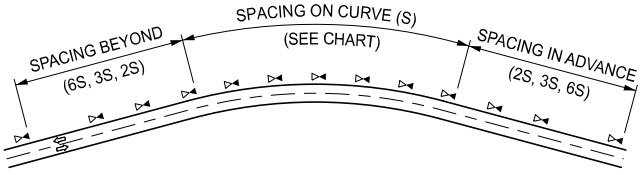
THE SPACING "S" IS FOUND USING THE FORMULA $S = 3\sqrt{R - 50}$ WHERE "R" IS THE RADIUS OF THE CURVE IN FEET.

CURVE RADIUS UNKNOWN				
CURVE ADVISORY SPEED (MPH)*	SPACING (S) ON CURVE (FT)	SPACING BEFORE/AFTER CURVE		
		2S	3S	6S
< 25	25	50	75	150
25	40	80	120	240
30	50	100	150	300
35	60	120	180	300
40	70	140	210	300
45	80	160	240	300
50	90	180	270	300
55	100	200	300	300
60	115	230	300	300
65	130	260	300	300
70	140	280	300	300
75	160	300	300	300

* POSTED OR STATUTORY SPEED LIMIT IF NO ADVISORY POSTED



DELINEATOR LOCATION ON
FREEWAY AND DIVIDED ROADWAY CURVES



NOTE:
DELINEATORS SHALL BE PLACED ON TWO LANE TWO WAY ROADWAY HORIZONTAL CURVES WITH A RADIUS OF 1900' OR LESS, OR AS DIRECTED BY THE REGION/TSC TRAFFIC AND SAFETY ENGINEER.

DELINEATOR FACE SHALL BE INSTALLED PERPENDICULAR (OR RADIAL) TO ROADWAY.

DELINEATOR LOCATION ON
TWO LANE TWO WAY ROADWAY CURVES

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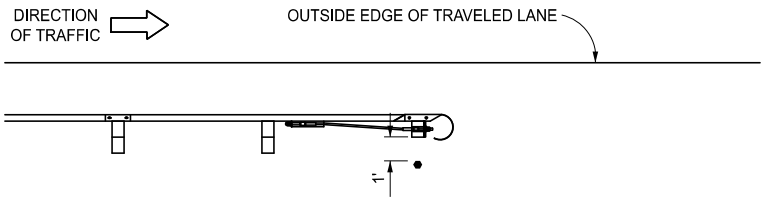
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DELINEATOR INSTALLATIONS

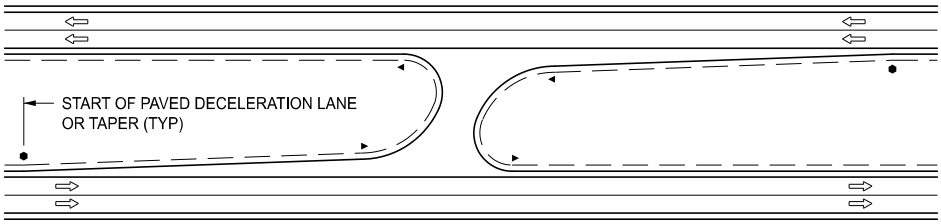
(SPECIAL DETAIL) FHWA APPROVAL	08/11/2023 PLAN DATE	R-127-H	SHEET 5 OF 8

GUARDRAIL APPROACH TERMINAL	DELINEATOR LOCATED 1 FOOT BEHIND
TYPE 1	LAST POST (FROM APPROACH END)
TYPE 2	FIRST POST (FROM APPROACH END)

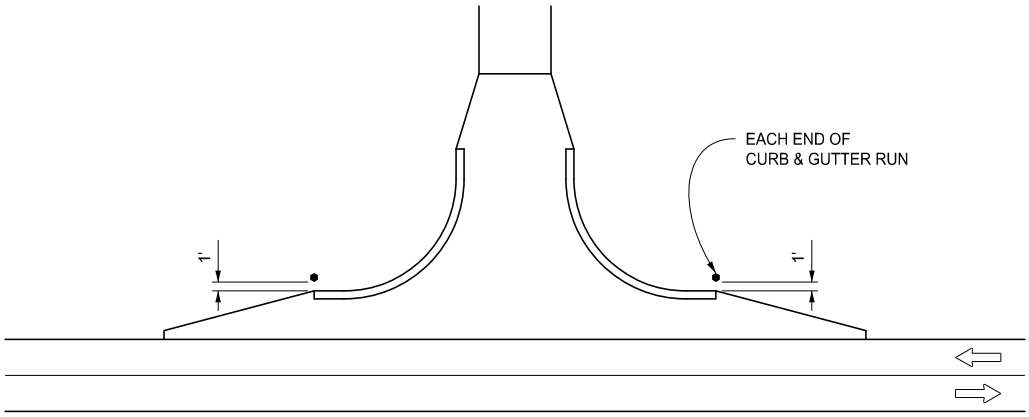


GUARDRAIL DEPARTING TERMINAL TYPES B, T, & MGS

GREEN DELINEATORS AT GUARDRAIL INSTALLATIONS

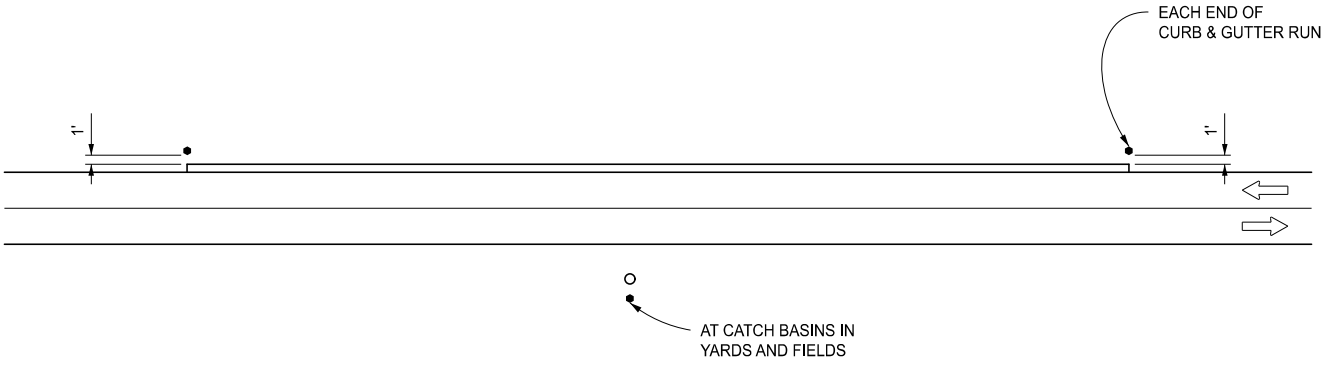


MAINTENANCE CROSSOVER



INTERSECTION

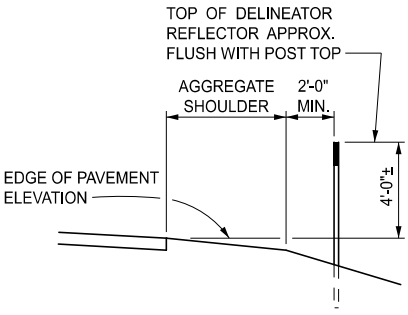
NOTE: MAY BE OMITTED AT FREEWAY RAMP TERMINALS DUE TO THE PRESENCE OF OTHER DELINEATORS



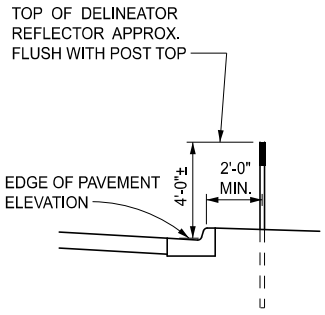
CURB & GUTTER AND CATCH BASINS

GREEN DELINEATOR LOCATIONS

MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR DELINEATOR INSTALLATIONS			
	(SPECIAL DETAIL) FHWA APPROVAL	08/11/2023 PLAN DATE	R-127-H	SHEET 7 OF 8

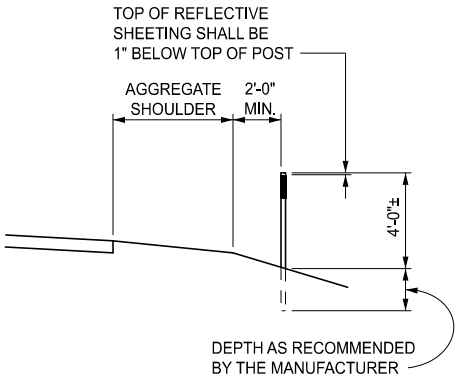


SHOULDER

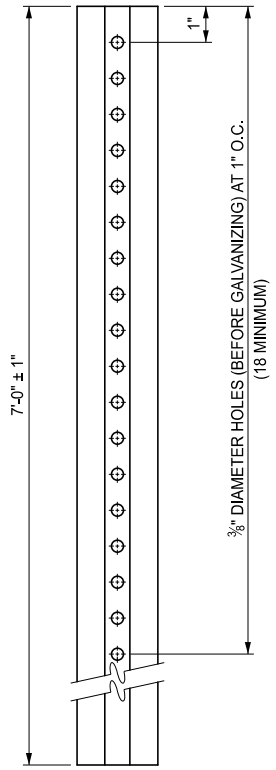


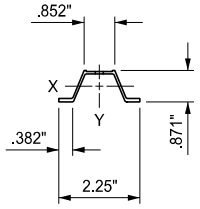
CURB

INSTALLATION OF DELINEATOR REFLECTORS ON RIGID STEEL POST



INSTALLATION OF REFLECTIVE SHEETING ON FLEXIBLE POST

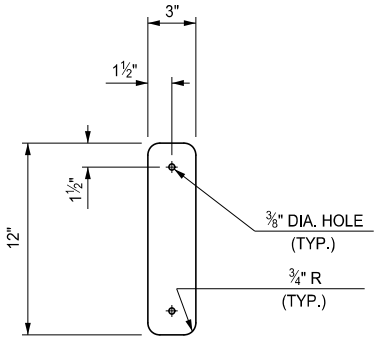




NOMINAL WEIGHT = 1.12 LBS/FT

MINIMUM MOMENT OF INERTIA ABOUT
X-X AXIS = 0.031 in.^{4}

RIGID STEEL POST DETAIL



DELINEATOR REFLECTOR DETAIL

NOTES:

DELINEATORS SHOULD BE PLACED 2'-0" BEYOND THE AGGREGATE SHOULDER, 2'-0" BEYOND THE FACE OF A BARRIER CURB, IMMEDIATELY BEHIND THE GUARDRAIL POST, OR AS NEAR AS POSSIBLE BEHIND CONCRETE BARRIER. DELINEATORS INSTALLED ON FLEXIBLE POSTS SHALL NOT BE PLACED BEHIND GUARDRAIL.

FLEXIBLE POST DELINEATORS SHALL BE INSTALLED ACCORDING TO THE CURRENT SPECIFICATIONS AND INSTALLED AT ALL LOCATIONS SPECIFIED ON THIS STANDARD PLAN, OR WHERE DIRECTED BY THE ENGINEER.

ON RAMPS, WHITE DELINEATORS SHALL BE PLACED ON THE RIGHT AND YELLOW DELINEATORS SHALL ALSO BE PLACED ON THE LEFT FOR A RIGHT-CURVING RAMP WITH A RADIUS OF 1000' OR LESS.

WHERE DELINEATION ON ONE SIDE OF THE ROADWAY OR RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS, AN OVERLAP OF TWO DELINEATOR INSTALLATIONS SHALL BE USED.

DELINEATORS SHALL BE PLACED ON ALL RAMPS AT RURAL INTERCHANGES WHETHER OR NOT THE INTERCHANGES ARE LIGHTED. DELINEATORS SHALL BE OMITTED ALONG THE THROUGH ROADWAY BETWEEN INTERCHANGES WHERE FIXED SOURCE LIGHTING EXISTS.

DELINEATOR PLACEMENT SHOULD CONTINUE WHERE GUARDRAIL OR CONCRETE BARRIER IS PRESENT. DO NOT PLACE DELINEATORS BEHIND GUARDRAIL APPROACH TERMINALS EXCEPT AS SHOWN ON SHEET 6 OF THIS STANDARD. IF TERRAIN OR OTHER FACTORS PROHIBIT POST MOUNTED DELINEATOR PLACEMENT, INSTALLATION OF GUARDRAIL OR BARRIER MOUNTED ENHANCED DELINEATORS IS RECOMMENDED.

ALTERNATE DELINEATOR LOCATION METHOD:
THE FIRST DELINEATOR ON EACH SIDE OF THE ROADWAY IS LOCATED FROM THE AGGREGATE SHOULDER. A NEW OFFSET REFERENCE IS GENERATED BY MEASURING FROM THE LOCATED DELINEATOR TO THE STRIPED EDGELINE. THIS MEASUREMENT CAN BE USED TO LOCATE THE OTHER DELINEATORS IN A CORRIDOR OF SIMILAR CROSS SECTION.

MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
DELINEATOR INSTALLATIONS

(SPECIAL DETAIL) FHWA APPROVAL	08/11/2023 PLAN DATE	R-127-H	SHEET 8 OF 8

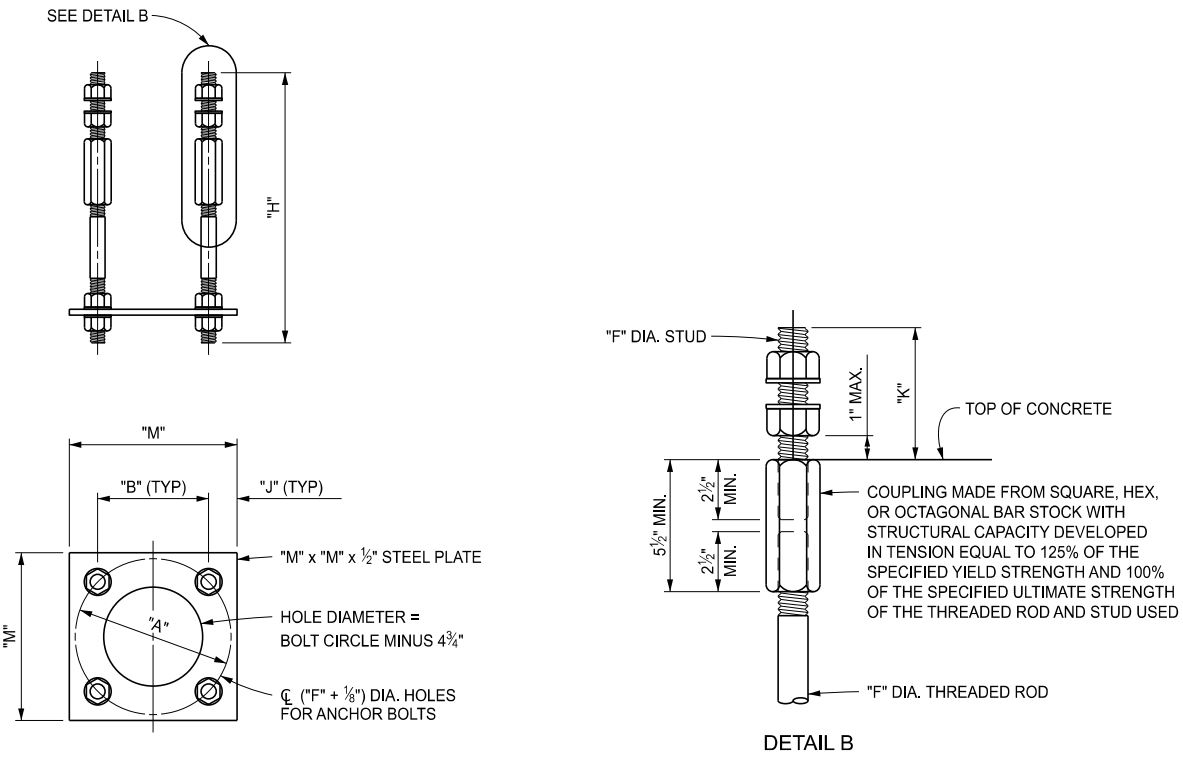
ANCHOR BOLT ASSEMBLY DIMENSIONS								
LIGHT STANDARD MOUNTING HEIGHT	BOLT CIRCLE "A"	"B"	ANCHOR BOLT DIAMETER "F"	"H"	"J"	STUD PROJECTION "K"	STUD LENGTH "L"	"M"
30' *	1'-3" (A)	10 5/8" (A)	1 1/2"	1'-9 3/4"	2 3/8"	5 1/2"	7 1/4"	1'-3 3/8" (A)
	1'-0" (S)	8 1/2" (S)						1'-1 1/4" (S)
30' **	1'-3" (A)	10 5/8" (A)	1 1/2"	1'-10 1/2"	2 3/8"	5 1/2"	8"	1'-3 3/8" (A)
	1'-0" (S)	8 1/2" (S)						1'-1 1/4" (S)
40' **	1'-4" (A)	11 3/8" (A)	1 3/4"	1'-10 1/2"	2 7/8"	5 1/2"	8"	1'-5 1/8" (A)
	1'-3" (S)	10 5/8" (S)						1'-4 3/8" (S)
45' **	1'-5" (A)	1'-0" (A)	1 3/4"	1'-10 1/2"	2 7/8"	5 1/2"	8"	1'-5 3/4" (A)
	1'-6" (S)	1'-0 3/4" (S)						1'-6 1/2" (S)

* UP TO 15' SINGLE OR DOUBLE BRACKET ARM

** UP TO 17' SINGLE OR DOUBLE BRACKET ARM

ANCHOR BOLTS (4 REQUIRED):
"F" DIA. x 1'-2" THREADED ROD AND "F" DIA. x "L" STUD WITH 4 NUTS, 4 WASHERS, AND ONE COUPLING.

(A) = DIMENSION CORRESPONDS TO ALUMINUM
(S) = DIMENSION CORRESPONDS TO STEEL



DETAIL B

LIGHT STANDARD ANCHOR BOLT ASSEMBLY

APPROVED BY: _____
DIRECTOR, BUREAU OF BRIDGES AND STRUCTURES

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

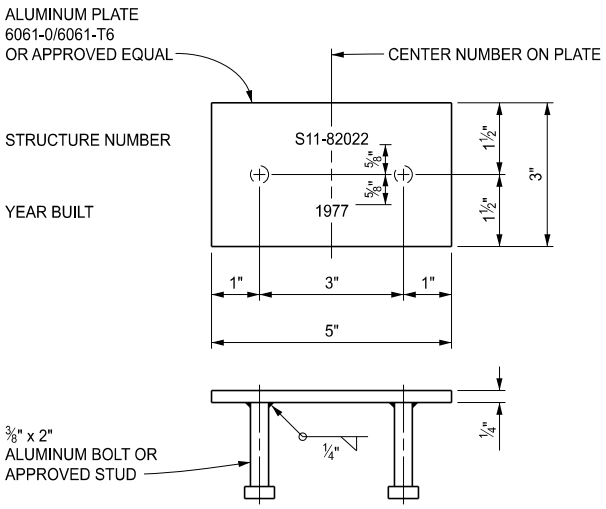
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
MOLDING, BEVEL, LIGHT STD. ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS

(SPECIAL DETAIL) FHWA APPROVAL	12/08/2023 PLAN DATE	B-103-F	SHEET 1 OF 2



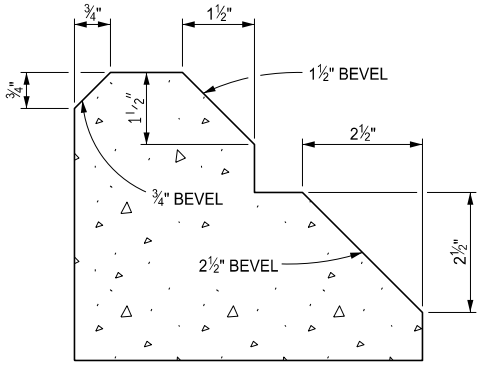
NAME PLATE

NOTES:

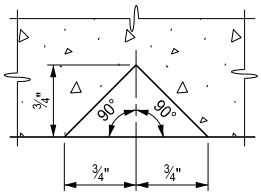
DIE STAMP - ¼" MINIMUM

LETTERS AND NUMBERS SHALL BE ¼" MINIMUM OR ⅜" MAXIMUM HEIGHT.

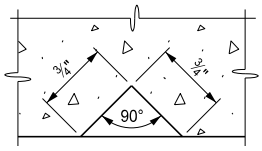
DATE SHALL BE YEAR THAT SUPERSTRUCTURE WAS COMPLETED.



BEVEL DETAILS



DOUBLE ¾" Δ MOLDING



¾" Δ MOLDING

MOLDING DETAILS

NOTES:

DETAILS SHOWN ARE ACCORDING TO THE AASHTO SPECIFICATIONS.

LIGHT STANDARD ANCHOR BOLT ASSEMBLY STEEL PLATE SHALL BE ASTM A36.

ALL STEEL SHALL BE HOT-DIP GALVANIZED ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

ANCHOR BOLTS, WASHERS, COUPLINGS AND NUTS FOR LIGHT STANDARDS SHALL BE ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE COUPLING SHALL BE RETAPPED AFTER GALVANIZING IN THE SAME MANNER AS SPECIFIED FOR NUTS.

ALUMINUM PLATE SHALL MEET THE REQUIREMENTS OF ASTM B209.

ALUMINUM BOLT SHALL MEET THE REQUIREMENTS OF ASTM F468.

INTERNAL DAMPENER FOR LIGHT STANDARDS SHALL BE INCLUDED AS RECOMMENDED BY THE MANUFACTURER.

MDOT
Michigan Department of Transportation

DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

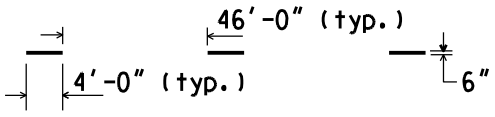
STANDARD PLAN FOR
MOLDING, BEVEL, LIGHT STD. ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS

(SPECIAL DETAIL) FHWA APPROVAL	12/08/2023 PLAN DATE	B-103-F	SHEET 2 OF 2

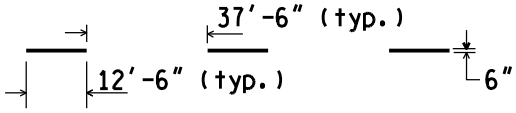
TYPES OF TEMPORARY LONGITUDINAL LINES

FREEWAY APPLICATIONS

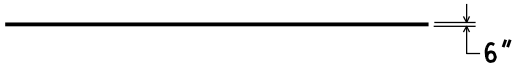
BROKEN WHITE LANE LINE (1)



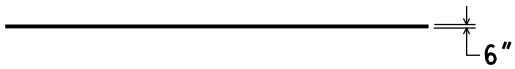
BROKEN WHITE LANE LINE (2)



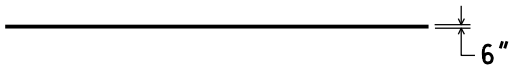
SOLID WHITE LANE LINE OR LANE SHIFT



SOLID WHITE EDGE LINE



SOLID YELLOW EDGE LINE



SOLID WHITE GORE MARKING

Notes:

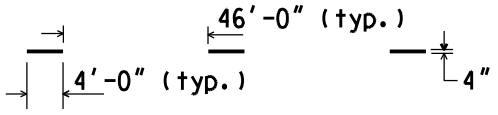
1. See project documents for correct broken line pattern.

MDOT Michigan Department of Transportation PREPARED BY TSMO DIVISION DRAWN BY: MKB CHECKED BY: KMW	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT			
		(SPECIAL DETAIL) F.H.W.A. APPROVAL	(SPECIAL DETAIL) PLAN DATE	PAVE-904-A	SHEET 1 OF 3

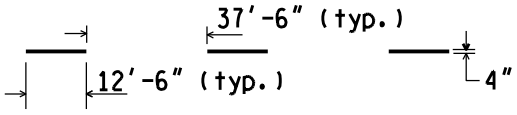
TYPES OF TEMPORARY LONGITUDINAL LINES

NON-FREEWAY APPLICATIONS

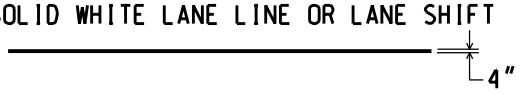
BROKEN WHITE LANE LINE (1)



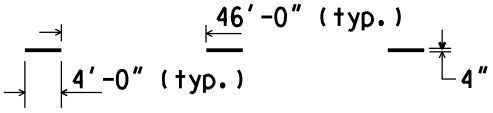
BROKEN WHITE LANE LINE (2)



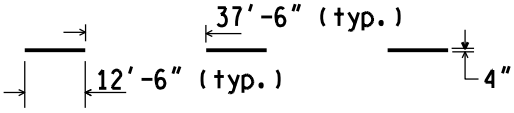
SOLID WHITE LANE LINE OR LANE SHIFT



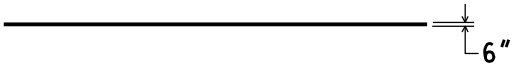
BROKEN YELLOW CENTERLINE (1)



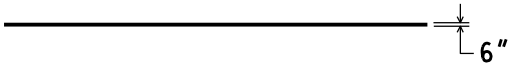
BROKEN YELLOW CENTERLINE (2)



SOLID WHITE EDGE LINE



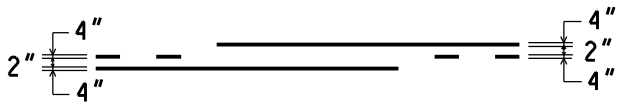
SOLID YELLOW EDGE LINE



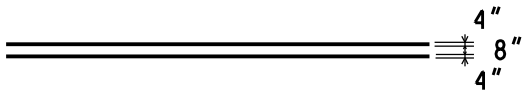
SOLID WHITE GORE MARKING

LINE PATTERNS

TWO - LANE PASSING PROHIBITED (YELLOW)



DOUBLE SOLID YELLOW (OR WHITE)

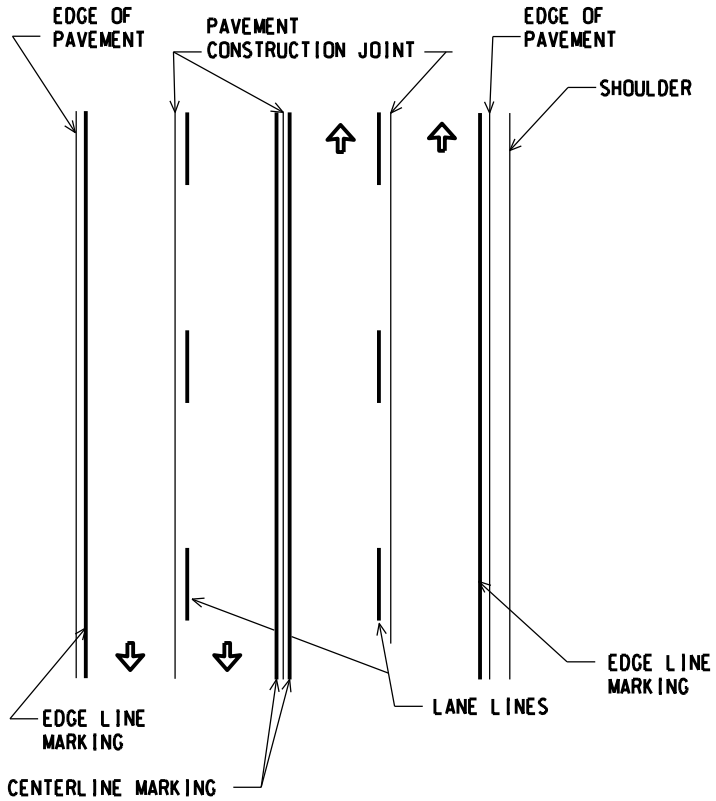


Notes:

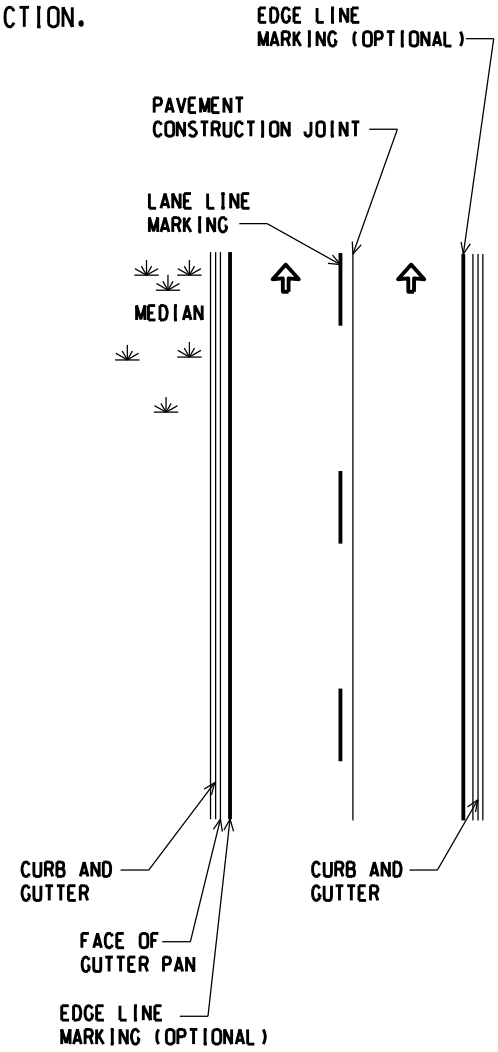
1. See project documents for correct broken line pattern.

NOT TO SCALE

BASIC COLOR RULE: WHITE LINES SEPARATE FLOW OF TRAFFIC IN THE SAME DIRECTION. YELLOW LINES SEPARATE FLOW OF TRAFFIC IN THE OPPOSITE DIRECTION.



FOR UNCURBED ROADWAYS



FOR CURBED ROADWAYS

PLACEMENT OF LINES

Notes:

1. Temporary marking locations shall conform with section 812 of the Standard Specifications for Construction.
2. See PAVE-905 for locations of permanent pavement marking lines.
3. Remove pavement markings that conflict with proposed temporary traffic markings before making any changes in traffic pattern. Do not use paint or bituminous bond coat to cover existing and inappropriate pavement markings. Tape may only be used with approval of the Engineer.

NOT TO SCALE

NOTICE TO BIDDERS - INQUIRY

All inquiries concerning the plans and proposal for this project are to be directed to:

Landon Johnson

Name

Rural Staff Engineer

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: MI20250001 01/03/2025

Superseded General Decision Number: MI20240001

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)(1).

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 $17.75 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 2025.
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 $13.30 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 2025.

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	01/03/2025

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 06/01/2024

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver	$ 32.00	33%+7.31
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers	$ 47.35	33%+7.31
Journeyman Specialist	$ 54.45	33%+7.31
Operator A	$ 40.09	33%+7.31
Operator B	$ 37.46	33%+7.31

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 06/01/2024

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	$ 55.42	25.25
GROUP 2	$ 56.42	25.25
GROUP 3	$ 53.92	25.25
GROUP 4	$ 54.92	25.25
GROUP 5	$ 52.42	25.25
GROUP 6	$ 53.42	25.25

GROUP 7	$ 52.15	25.25
GROUP 8	$ 53.15	25.25
GROUP 9	$ 51.70	25.25
GROUP 10	$ 52.70	25.25
GROUP 11	$ 50.97	25.25
GROUP 12	$ 51.97	25.25
GROUP 13	$ 50.61	25.25
GROUP 14	$ 51.61	25.25
GROUP 15	$ 49.97	25.25
GROUP 16	$ 46.77	25.25
GROUP 17	$ 32.29	12.40
GROUP 18	$ 35.78	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 06/01/2024

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	$ 55.02	25.25
GROUP 2	$ 52.15	25.25
GROUP 3	$ 50.61	25.25
GROUP 4	$ 46.77	25.25
GROUP 5	$ 32.29	12.40
GROUP 6	$ 35.78	25.25
AREA 2		
GROUP 1	$ 55.02	25.25
GROUP 2	$ 52.15	24.25
GROUP 3	$ 50.61	25.25
GROUP 4	$ 46.77	25.25
GROUP 5	$ 32.29	12.40
GROUP 6	$ 35.78	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 09/01/2024

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	$ 43.48	25.25
GROUP 2	$ 38.75	25.25
GROUP 3	$ 38.02	25.25
GROUP 4	$ 37.45	25.25
GROUP 5	$ 27.85	12.10
AREA 2:		
GROUP 1	$ 43.48	25.25
GROUP 2	$ 38.75	25.25
GROUP 3	$ 38.02	25.25
GROUP 4	$ 37.45	25.25
GROUP 5	$ 27.85	12.10

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 06/01/2024

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	$ 43.71	25.25
GROUP 2	$ 42.56	25.25
GROUP 3	$ 35.83	25.25
GROUP 4	$ 35.27	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Paver Operator (5 bags or more); Slip Form Paver; Asphalt Paver (self propelled); Shovel (Excavator) installing utilities over 20 feet in depth.

Group 2: Asphalt plant operator; crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel (Excavator) operator; Locomotive operator; Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); 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 planner (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); tractor operator (farm type with attachment); Wagon Drill operator; Boom or winch hoist truck operator.

GROUP 3: 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); End Loader operator (1 yard Capacity and over); Side boom tractor (type D or equivalent or larger; Endloader operator *under 1 yard capacity; Trencher (service).

GROUP 4: Boiler fire tender; Concrete Breaker; Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Roller operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier operator (asphalt); Vibratory compaction equipment operator (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 05/01/2024

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	$ 40.90	25.00
Crane operator, main boom & jib 120' or longer	$ 47.37	25.00
Crane operator, main boom & jib 140' or longer	$ 47.37	24.60
Crane operator, main boom & jib 220' or longer	$ 48.26	25.00
Mechanic with truck and tools	$ 46.50	25.00
Oiler and fireman	$ 39.96	25.00
Regular operator	$ 44.72	25.00

ENGI0324-008 10/01/2023

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	$ 37.37	15.44
GROUP 2	$ 35.33	15.44

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 jetters and vacuum and mechanical debris removal systems

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ENGI0325-012 05/01/2024

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1	$ 37.98	25.25
GROUP 2	$ 34.75	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 06/01/2024

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	$ 39.91	32.32
General contracts less than $10,000,000	$ 39.91	32.32

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0025-002 06/01/2024

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:	$ 35.55	33.14
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	$ 33.43	37.15

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 LENAWEE 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 09/01/2024

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	$ 27.86	22.11
GROUP 2	$ 29.86	22.11
GROUP 3	$ 25.86	22.11
GROUP 4	$ 23.97	16.93
GROUP 5	$ 24.22	16.93
GROUP 6	$ 24.55	16.93
GROUP 7	$ 17.83	16.93
AREA 2		
GROUP 1	$ 30.00	17.45
GROUP 2	$ 32.00	17.45
GROUP 3	$ 28.00	17.45
GROUP 4	$ 29.57	16.93
GROUP 5	$ 25.76	16.93
GROUP 6	$ 26.07	16.93
GROUP 7	$ 25.57	16.93

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, aquafers, 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.

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1	$ 27.71	22.11
GROUP 2	$ 29.71	22.11
GROUP 3	$ 25.87	22.11
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	$ 29.65	17.45
GROUP 2	$ 31.65	17.45
GROUP 3	$ 27.65	17.45
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 LENAWEE COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1	$ 27.84	17.45
GROUP 2	$ 29.84	17.45
GROUP 3	$ 25.84	17.45
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	$ 26.32	17.95
GROUP 2	$ 28.32	17.95
GROUP 3	$ 24.32	17.95
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	$ 26.09	18.45
GROUP 2	$ 28.09	18.45
GROUP 3	$ 24.09	18.45
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 06/01/2024

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	$ 34.01	14.45
GROUP 2	$ 34.14	14.45
GROUP 3	$ 34.32	14.45
GROUP 4	$ 34.40	14.45
GROUP 5	$ 34.61	14.45
GROUP 6	$ 34.91	14.45
LABORER (AREA 2)		
GROUP 1	$ 31.87	14.45
GROUP 2	$ 32.07	14.45
GROUP 3	$ 32.31	14.45
GROUP 4	$ 32.66	14.45
GROUP 5	$ 32.53	14.45
GROUP 6	$ 32.87	14.45
LABORER (AREA 3)		
GROUP 1	$ 31.12	14.45
GROUP 2	$ 31.33	14.45
GROUP 3	$ 31.62	14.45
GROUP 4	$ 32.06	14.45
GROUP 5	$ 31.68	14.45

GROUP 6	$ 32.11	14.45
LABORER (AREA 4)		
GROUP 1	$ 32.02	14.45
GROUP 2	$ 31.73	14.45
GROUP 3	$ 32.52	14.45
GROUP 4	$ 32.96	14.45
GROUP 5	$ 32.58	14.45
GROUP 6	$ 33.01	14.45

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 04/01/2024

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1	$ 27.16	13.45
Zone 2	$ 25.42	13.45
Zone 3	$ 23.55	13.45

Zone 4.....$ 22.92 13.45
Zone 5.....$ 22.95 13.45

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 06/01/2024

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	$ 29.35	19.05

All other work, including maintenance of industrial plant	$ 29.35	19.05

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 06/01/2023

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	$ 33.00	18.51
ZONE 2	$ 31.50	18.51

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
Plumber/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 06/01/2024

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	$ 32.55	.75 + a+b
Trucks under 8 cu. yds.	$ 32.30	.75 + a+b
Trucks, 8 cu. yds. and over	$ 32.40	.75 + a+b
AREA 2		
Euclids, double bottoms and lowboys	$ 32.65	.75 + a+b
Trucks under 8 cu. yds.	$ 32.40	.75 + a+b
Trucks, 8 cu. yds. and over	$ 32.50	.75 + 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

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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.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.75) or 13658 ($13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates

in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination

c) an initial WHD letter setting forth a position on
a wage determination matter
d) an initial conformance (additional classification
and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION"