

ITEM NUMBER

2401 034

STATE OF MICHIGAN DEPARTMENT OF TRANSPORTATION

PROPOSAL

0.54 mi of hot mix asphalt reconstruction, concrete sidewalk and ramps, sanitary and storm sewer, watermain and pavement markings on Meridian Street from West Easterday Avenue to 4th Avenue in the city of Sault Ste. Marie, Chippewa County. This is a Local Agency project.

BIDS WILL BE ELECTRONICALLY DOWNLOADED AT 10:30 AM LOCAL TIME, ON 1/5/24

<u>CONTRACT ID</u>	<u>CONTROL SECTION</u>	<u>PROJECT</u>	<u>FEDERAL NUMBER</u>
17000-208179-3	STUL 17000	208179A	23A0227

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.

Newberry TSC



12/13/2023 3:20 PM

AASHTOWare Project™ Version 4.8.1 Revision 025

Schedule of Items

Report v1

Proposal ID: 17000-208179-3

Project(s): 208179A

Letting Number: 240105

Call Number: 034

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\$70,000.00	1.000 LSUM		
0010	2030001 - Culv, Rem, Less than 24 inch	13.000 Ea		
0015	2030011 - Dr Structure, Rem	14.000 Ea		
0020	2030015 - Sewer, Rem, Less than 24 inch	1,100.000 Ft		
0025	2040020 - Curb and Gutter, Rem	2,329.000 Ft		
0030	2040050 - Pavt, Rem	9,325.000 Syd		
0035	2040055 - Sidewalk, Rem	225.000 Syd		
0040	2050010 - Embankment, CIP	110.000 Cyd		
0045	2050016 - Excavation, Earth	15,980.000 Cyd		
0050	2050030 - Machine Grading	21.000 Sta		
0055	2050041 - Subgrade Undercutting, Type II	500.000 Cyd		
0060	2050148 - Flowable Fill, Non-Structural	15.000 Cyd		
0065	2080020 - Erosion Control, Inlet Protection, Fabric Drop	22.000 Ea		
0070	2080036 - Erosion Control, Silt Fence	200.000 Ft		

Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0075	3010002 - Subbase, CIP	9,160.000 Cyd		
0080	3020016 - Aggregate Base, 6 inch	1,505.000 Syd		
0085	3020020 - Aggregate Base, 8 inch	1,025.000 Syd		
0090	3020030 - Aggregate Base, 12 inch	12,190.000 Syd		
0095	3060020 - Maintenance Gravel	500.000 Ton		
0100	3070008 - Approach, CI I, 6 inch	1,450.000 Syd		
0105	3070125 - Shld, CI II, 3 inch	661.000 Syd		
0110	3080010 - Geotextile, Stabilization	16,670.000 Syd		
0115	4021204 - Sewer Tap, 12 inch	1.000 Ea		
0120	4021206 - Sewer Tap, 18 inch	3.000 Ea		
0125	4021260 - Trench Undercut and Backfill	90.000 Cyd		
0130	4021275 - Video Taping Sewer and Culv Pipe	2,500.000 Ft		
0135	4027001 - _Sewer, CI A, 12 inch, Tr Det B1	565.000 Ft		
0140	4027001 - _Sewer, CI A, 15 inch, Tr Det B1	503.000 Ft		
0145	4027001 - _Sewer, CI A, 18 inch, Tr Det B1	609.000 Ft		
0150	4027001 - _Sewer, CI A, 8 inch, Tr Det B1	140.000 Ft		
0155	4030004 - Dr Structure Cover, Adj, Case 1, Modified	3.000 Ea		
0160	4030010 - Dr Structure Cover, Type B	9.000 Ea		

Schedule of Items

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Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0165	4030035 - Dr Structure Cover, Type E	5.000 Ea		
0170	4030050 - Dr Structure Cover, Type K	16.000 Ea		
0175	4030200 - Dr Structure, 24 inch dia	12.000 Ea		
0180	4030210 - Dr Structure, 48 inch dia	10.000 Ea		
0185	4030230 - Dr Structure, 72 inch dia	3.000 Ea		
0190	4040063 - Underdrain, Subbase, 6 inch	5,385.000 Ft		
0195	5010025 - Hand Patching	5.000 Ton		
0200	5010061 - HMA Approach	505.000 Ton		
0205	5012025 - HMA, 4EML	945.000 Ton		
0210	5012037 - HMA, 5EML	735.000 Ton		
0215	7060031 - Conduit, 3 inch, Placed	60.000 Ft		
0220	8020025 - Curb and Gutter, Conc, Det C6	3,790.000 Ft		
0225	8020050 - Driveway Opening, Conc, Det M	365.000 Ft		
0230	8030010 - Detectable Warning Surface	64.000 Ft		
0235	8030030 - Curb Ramp Opening, Conc	215.000 Ft		
0240	8032002 - Curb Ramp, Conc, 6 inch	3,360.000 Sft		
0245	8060030 - Shared use Path, Grading	895.000 Ft		
0250	8060040 - Shared use Path, HMA	255.000 Ton		

Schedule of Items

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Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0255	8070095 - Post, Mailbox	1.000 Ea		
0260	8080007 - Fence, Protective	200.000 Ft		
0265	8100371 - Post, Steel, 3 pound	708.000 Ft		
0270	8100402 - Sign, Type III, Erect, Salv	11.000 Ea		
0275	8100403 - Sign, Type III, Rem	58.000 Ea		
0280	8100404 - Sign, Type IIIA	80.000 Sft		
0285	8100405 - Sign, Type IIIB	135.000 Sft		
0290	8110041 - Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk	385.000 Ft		
0295	8110045 - Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	176.000 Ft		
0300	8110063 - Pavt Mrkg, Ovly Cold Plastic, Lt Turn Arrow Sym	13.000 Ea		
0305	8110068 - Pavt Mrkg, Ovly Cold Plastic, Only	4.000 Ea		
0310	8110071 - Pavt Mrkg, Ovly Cold Plastic, Rt Turn Arrow Sym	1.000 Ea		
0315	8110076 - Pavt Mrkg, Ovly Cold Plastic, Thru and Lt Turn Arrow Sym	1.000 Ea		
0320	8110077 - Pavt Mrkg, Ovly Cold Plastic, Thru and Rt Turn Arrow Sym	1.000 Ea		
0325	8110231 - Pavt Mrkg, Waterborne, 4 inch, White	525.000 Ft		
0330	8110232 - Pavt Mrkg, Waterborne, 4 inch, Yellow	6,415.000 Ft		

Schedule of Items

Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0335	8110451 - Recessing Pavt Mrkg, Transv	561.000		
		Sft		
0340	8120012 - Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	12.000		
		Ea		
0345	8120013 - Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	12.000		
		Ea		
0350	8120026 - Pedestrian Type II Barricade, Temp	50.000		
		Ea		
0355	8120100 - Dust Palliative, Applied	1.000		
		Ton		
0360	8120140 - Lighted Arrow, Type C, Furn	2.000		
		Ea		
0365	8120141 - Lighted Arrow, Type C, Oper	2.000		
		Ea		
0370	8120170 - Minor Traf Devices	1.000		
		LSUM		
0375	8120235 - Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, White, Temp	5,710.000		
		Ft		
0380	8120236 - Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, Yellow, Temp	11,200.000		
		Ft		
0385	8120252 - Plastic Drum, Fluorescent, Furn	125.000		
		Ea		
0390	8120253 - Plastic Drum, Fluorescent, Oper	125.000		
		Ea		
0395	8120350 - Sign, Type B, Temp, Prismatic, Furn	655.000		
		Sft		
0400	8120351 - Sign, Type B, Temp, Prismatic, Oper	655.000		
		Sft		
0405	8120370 - Traf Regulator Control	1.000		
		LSUM		
0410	8122250 - Pedestrian Path, Temp	500.000		
		Ft		

Schedule of Items

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Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0415	8122251 - Pedestrian Ramp, Temp	10.000 Ea		
0420	8167011 - _Restoration, Modified	13,500.000 Syd		
0425	8210001 - Monument Box	1.000 Ea		
0430	8210010 - Monument Preservation	1.000 Ea		
0435	8237001 - _Water Main, DI, 6 inch, Tr Det C1.01, Modified	210.000 Ft		
0440	8237001 - _Water Main, DI, 8 inch, Tr Det C1.01, Modified	2,586.000 Ft		
0445	8237050 - _Fire Hydrant, Modified	3.000 Ea		
0450	8237050 - _Gate Box, Adj, Case 1, Modified	5.000 Ea		
0455	8237050 - _Gate Box, Adj, Temp, Case 1, Modified	5.000 Ea		
0460	8237050 - _Gate Box, Reconst, Case 1, Modified	2.000 Ea		
0465	8237050 - _Gate Valve and Box, 4 inch, Modified	1.000 Ea		
0470	8237050 - _Gate Valve and Box, 6 inch. Modified	9.000 Ea		
0475	8237050 - _Gate Valve and Box, 8 inch, Modified	12.000 Ea		
0480	8237050 - _Hydrant, Rem, Modified	3.000 Ea		
0485	8237050 - _Water Main Conflict, 8 Inch, Modified	2.000 Ea		
0490	8237050 - _Water Main, 4 inch, Cut and Plug, Modified	1.000 Ea		

Schedule of Items

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Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0495	8237050 - _Water Main, 8 inch, Cut and Plug, Modified	2.000 Ea		
0500	8237050 - _Water Serv, Conflict, Modified	1.000 Ea		
0505	8237050 - _Water Serv, Modified	2.000 Ea		
0510	8237050 - _Water Shutoff, Adj, Case 1, Modified	1.000 Ea		
0515	8237050 - _Water Shutoff, Reconst, Case 1, Modified	1.000 Ea		
0520	8240001 - Contractor Staking	1.000 LSUM		
0525	8240002 - Staking Plan Errors and Extras, Max \$180/hour	25.000 Hr		
0530	8252145 - Sanitary Structure Cover, Adj, Case 1	1.000 Ea		
0535	8257001 - _Sanitary Sewer, PVC, 10 inch, Tr Det C1.01, Modified	1,631.000 Ft		
0540	8257001 - _Sanitary Sewer, Serv Lead, PVC, 6 inch, Modified	150.000 Ft		
0545	8257001 - _Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot. Modified	16.000 Ft		
0550	8257001 - _Sewer, Rem, Less Than 24 inch, Modified	702.000 Ft		
0555	8257050 - _Sanitary Structure Cover, Type Q, Modified	12.000 Ea		
0560	8257050 - _Sanitary Structure, 48 inch dia, Modified	10.000 Ea		
0565	8257050 - _Sanitary Structure, Rem, Modified	2.000 Ea		



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Schedule of Items

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Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0570	8257050 - _Sanitary Structure, Tap 10 inch, Modified	1.000 Ea		
0575	8257050 - _Sanitary Structure, Tap, 8 inch, Modified	2.000 Ea		

Section 1 Total:

Total Bid:



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Schedule Of Items - Blank Schedule of Items

Report v1

Proposal ID: 17000-208179-3

Project(s): 208179A

Letting Number: 240105

Call Number: 034

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:				

Letting Date: 240105

Item No: 2401 034

Contract ID: 17000-208179-3

DESIGNATED and SPECIALTY ITEMS

Designated Items:

Company Name of Prequalified Subcontractor:

(Cb) Hot Mix Asphalt/Bituminous Paving

(Company Name)

(Ea) Grading, Drainage, Structures and Aggregate Construction

(Company Name)

(K) Sewers and Watermains

(Company Name)

(Company Name)

(Company Name)

(Company Name)

Specialty Items:

(Company Name)

(Company Name)

See next page for information on completing this page

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INFORMATION ON COMPLETION OF DESIGNATED AND SPECIALTY ITEMS PAGE

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

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

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

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

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

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

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

Rev. (3/22)

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**Notice of Advertisement**

Report v1

Letting of: 240105

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

Call Number	Contract ID	Control Section	Project Number	Federal Project Number
034	17000-208179-3	STUL 17000	208179A	23A0227

Description: 0.54 mi of hot mix asphalt reconstruction, concrete sidewalk and ramps, sanitary and storm sewer, watermain and pavement markings on Meridian Street from West Easterday Avenue to 4th Avenue in the city of Sault Ste. Marie, Chippewa County. This is a Local Agency project.

Required DBE Participation: 3.00%**Net Classification Required For This Project:** ** 2687 Ea or 2687 K ****Estimated Pages For Plans:** 37**Completion Date:** 10/25/2024

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

Date Advertised: 12/15/2023

See proposal for bidder guaranty information.

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

PROGRESS CLAUSE

City of Sault Ste. Marie

1 of 1

11/2023

The Engineer anticipates that construction can begin no earlier than:

- 10 calendar 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, signed Progress Schedule to the Engineer.

The entire project must be completed by the final completion date of **October 25th, 2024**.

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

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

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

Failure by the Contractor to meet interim completion, open to traffic, and/or final completion dates will result in the assessment of liquidated damages in accordance with subsection 108.10.C.1 and 108.10.C.2 of the Standard Specifications for Construction.



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

October 3, 2022

David Boyle
City of Sault Sainte Marie

SUBJECT: NPDES Permit No. **MIR117295**
Designated Site Name: Sault Ste Marie-Meridian St Recon
Authorization to Discharge Storm Water from Construction Activities under the National
Pollutant Discharge Elimination System (NPDES)

This is to acknowledge that the Department of Environment, Great Lakes, and Energy (EGLE) received your complete Notice of Coverage form and \$400 fee. On **September 16, 2022**, you became authorized, under NPDES, to discharge storm water from your construction activities at **Meridian Street Reconstruction; Meridian Street from Easterday to 8th, Sault Sainte Marie, MI 49783**. The NPDES authorization number for this site is **MIR117295**. Please refer to this number in all future correspondence with the EGLE concerning this permit.

PLEASE NOTE: The authorization to discharge storm water pursuant to the provisions of Michigan's Permit-by-Rule expires on **September 15, 2027**, or when the project has been completed by the stabilization of earth-change activities. A Notice of Termination (NOT) must be submitted to the EGLE once the construction site is completely stabilized. If the NOT is submitted prior to the complete stabilization of the site, a new administratively complete NOC, including the fee, must be submitted to obtain storm water authorization. The NOT form is available in and submitted via the EGLE's MiWaters system. The MiWaters Web site is located at <https://miwaters.DEQ.state.mi.us>.

Please be advised that the authorization to discharge requires that the soil erosion and sedimentation controls be under the supervision of a state-certified storm water operator. A copy of Michigan's Permit-by-Rule can be found on EGLE's Web site at <https://www.michigan.gov/egle>; click on "Water", then "Water Permits", then click on "Surface Water," and then click on "Storm Water." These requirements must be followed during the entire period of your storm water discharge authorization.

The issuance of this permit does not authorize the violation of any federal, state, or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other EGLE permits, or approvals from other units of government as may be required by law.

If you have any questions about your authorization to discharge storm water, please contact your compliance person, Mitch Koetje at 906-202-1464, or KoetjeM@michigan.gov. For questions regarding renewing your NOC, or a New NOC application, please contact Tiffany Wilson, Permits Section, Water Resources Division, at 517-256-1425, or wilsont15@michigan.gov.

Sincerely,

Christe Alwin, Supervisor
Storm Water Permits Unit
Permits Section
Water Resources Division



PERMIT FOR WATER SUPPLY SYSTEMS

(Construction – Alteration – Addition or Improvement) as Described Herein

*Required under the Authority of 1976 PA 399, as amended (Act 399)**

Water System Project:

Water Supply Name: SAULT STE MARIE

Public Water Supply ID: MI0005950

Project Name: 229127 Meridian Street Reconstruction Revised Permit

Project Purpose: Replacement

Project Location: Sault Ste. Marie

Project County: Chippewa

Permit Number: **ACT-267654**

Issued Date: 7/11/2023

Expiration Date: 7/11/2025

This permit only authorizes the construction and/or alteration of the waterworks system as described below and detailed in the approved drawings and specifications in accordance with Part 13 of the Administrative Rules of Act 399.

**ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF
THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY**

Reviewed by: Bob London

Issued by: Bob London

This permit expires if construction or alteration has not commenced by the expiration date, 7/11/2025, in accordance with R 325.11306.

Requests for extension of this permit may be made in [MiEHDWIS](#) Construction Permit Activity ACT-267654 or by contacting your EGLE representative.

Facilities Description:

Water main and sanitary sewer replacement, roadway reconstruction, with 3" HMA, 8-12" aggregate base and 12" subbase, including drainage and shoulder work.

Conditions:

229127 Meridian Street Reconstruction Revised Permit Facilities

Mains

Length (ft)	Size (in)	Material	Construction Type	Comments
2586	8	DI	Replacement or Rehabilitation	Installed along Meridian Street from W 8th to W Easterday
210	6	DI	Replacement or Rehabilitation	three 70 foot segments installed from 724 Myrtle Elliot and both sides of 1105 Meridian

Tanks

Volume (GL)	Tank Type	Construction Type	Comments
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Wells

Diameter (in)	Depth (ft)	Capacity (GPM)	Pump Type	Construction Type	Comments
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Pumps

Total Dynamic Head (TDH)	Capacity at TDH (GPM)	Pump Type	Number of Pumps	Construction Type	Comments
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Treatment Processes

Construction Type	Treatment	Comments
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Other Facilities

Type of Facility	Description
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* This Act 399 Permit is issued under the authority of the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and allows the construction and/or alteration of the water system as described herein in accordance with Part 13 of the Administrative Rules of Act 399.

The issuance of this permit does not authorize violation of any federal, state, or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other EGLE permits, or approvals from other units of government as may be required by law.

This permit expires if construction or alteration has not commenced by the expiration date indicated above in accordance with R 325.11306. Requests for extension of this permit can be made through MiEHDWIS or by contacting your EGLE representative.

Revisions of the approved plans and specifications must be done in accordance R325.11309.

Noncompliance with the conditions of this permit and the requirements of Act 399 constitutes a violation of the Act.

Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.

Where applicable for water withdrawals, the issuance of this permit indicates compliance with the requirements of Part 327 of Act 451, Great Lakes Preservation Act.



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION

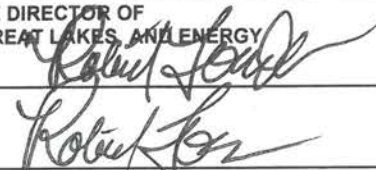
PERMIT APPLICATION FOR WATER SUPPLY SYSTEMS
(CONSTRUCTION - ALTERATION - ADDITION OR IMPROVEMENT) AS DESCRIBED HEREIN
Required under the Authority of 1976 PA 399, as amended (Act 399)

This application becomes an Act 399 Permit only when signed and issued by authorized Michigan Department of Environment, Great Lakes, and Energy (EGLE) staff. See instructions below for completion of this application.

1. Municipality or Organization, Address and WSSN that will own or control the water facilities to be constructed. This permit is to be issued to: City of Sault Sainte Marie WSSN: 05950		Permit Stamp Area (EGLE use only) MICH DEPT ENVIRONMENT, GREAT LAKES AND ENERGY PERMIT NO. W 229127 SEP 01 '22 EXAMINED AND APPROVED FOR COMPLIANCE WITH ACT 399, P.A. 1976	
2. Owner's Contact Person (provide name for questions): Contact: David S. Boyle, PE Title: City Engineer Phone: (906) 632 5606			
3. Project Name (Provide phase number if project is segmented): Meridian St. Reconstruction Easterday Ave. to 8th St.	4. Project Location (City, Village, Township): Sault Sainte Marie	5. County (location of project): Chippewa	

ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF
THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

cc:

Issued by: 

Reviewed by: 

☐ If this box is marked see attached special conditions.

Instructions: Complete items 1 through 5 above and 6 through 21 on the following pages of this application. Print or type all information except for signatures. Mail completed application, plans and specifications, and any attachments to the EGLE District Office having jurisdiction in the area of the proposed construction.

Please Note:

- This **PERMIT** only authorizes the construction, alteration, addition or improvement of the water system described herein and is issued solely under the authority of 1976 PA 399, as amended.
- The issuance of this **PERMIT** does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other EGLE permits, or approvals from other units of government as may be required by law.
- This **PERMIT** expires two (2) years after the date of issuance in accordance with R 325.11306, 1976 PA 399, administrative rules, unless construction has been initiated prior to expiration.
- Noncompliance with the conditions of this permit and the requirements of the Act constitutes a violation of the Act.
- Applicant must give notice to public utilities in accordance with 1974 PA 53, (MISS DIG), being Section 460.701 to 460.718 of the Michigan Compiled Laws and comply with each of the requirements of that Act.
- All earth changing activities must be conducted in accordance with the requirements of the Soil Erosion and Sedimentation Control Act, Part 91, 1994 PA 451, as amended (Act 451).
- All construction activity impacting wetlands must be conducted in accordance with the Wetland Protection Act, Part 303, 1994 PA 451, as amended.
- Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.
- Where applicable for water withdrawals, the issuance of this permit indicates compliance with the requirements of Part 327 of Act 451, Great Lakes Preservation Act.

Permit Application for Water Supply Systems (Continued)

- 6. Facilities Description** – In the space below provide a detailed description of the proposed project. Applications without adequate facilities descriptions will be returned. SEE EXAMPLES BELOW. Use additional sheets if needed.

786 feet of 8-inch water main in Meridian Street from an existing stub 60 feet north of West 8th Avenue north to existing 8-inch located approximately 475 feet south of West 4th Avenue.
Curing in place 1800 feet of the existing 8-inch cast iron water main from 475 feet south of West 4th Avenue to West Easterday Avenue.

EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES

Water Mains	500 feet of 8-inch water main in First Street from Main Street north to State Street. OR 250 feet of 12-inch water main in Clark Road from an existing 8-inch main in Third Avenue north to a hydrant.
Booster Stations	A booster station located at the southwest corner of Third Avenue and Main Street, and equipped with two, 15 Hp pumps each rated 150 gpm @ 200 feet TDH. Station includes backup power and all other equipment as required for proper operation.
Elevated Storage Tank	A 300,000 gallon elevated storage tank located in City Park. The proposed tank shall be spherical, all welded construction and supported on a single pedestal. The tank shall be 150 feet in height, 40 feet in diameter with a normal operating range of 130 – 145 feet. The interior coating system shall be ANSI/NSF Standard 61 approved or equivalent. The tank will be equipped with a cathodic protection system, and includes a tank level control system with telemetry.
Chemical Feed	A positive displacement chemical feed pump, rated at 24 gpd @ 110 psi to apply a chlorine solution for Well No. 1. Chlorine is 12.5% NaOCL, ANSI/NSF Standard 60 approved and will be applied at a rate of 1.0 mg/l of actual chlorine.
Water Supply Well	Well No. 3, a 200 foot deep well with 170 feet of 8-inch casing and 30 feet of 8-inch, 10 slot screen. The well will be equipped with a 20 Hp submersible pump and motor rated 200 gpm @ 225 feet TDH, set at 160 feet below land surface.
Treatment Facilities	A 5 million gpd water treatment plant located at the north end of Second Avenue. The facility will include 6 low service pumps, 2 rapid mix basins, 4 flocculation/sedimentation basins, 8 dual media filters, 3 million gallon water storage reservoir and 6 high service pumps. Also included are chemical feed pumps and related appurtenances for the addition of alum, fluoride, phosphate and chlorine.

Permit Application for Water Supply Systems (Continued)

General Project Information – Complete all boxes below.

7. Design engineer's name, engineering firm, address, phone number, and email address:
 Joe (Leo) Miller, Sault Ste. Marie, 225 E. Portage Ave,
 906-632-5731, lmiller@saultcity.com

8. Indicate who will provide project construction inspection:
☒ Organization listed in Box 1.
☐ Engineering firm listed in Box 7.
☐ Other - name, address, and phone number listed below.

9. Is a basis of design attached?

☐ YES ☒ NO

We are replacing in kind/lining pipe.

If no, briefly explain why a basis of design is not needed.

10. Are sealed and signed engineering plans attached?

☒ YES ☐ NO

If no, briefly explain why engineering plans are not needed.

11. Are sealed and signed construction specifications attached?

☒ YES ☐ NO

If specifications are not attached, they need to be on file at EGLE.

12. Were Recommended Standards for Water Works, Suggested Practice for Water Works, AWWA guidelines, and the requirements of Act 399 and its administrative rules followed?

☒ YES ☐ NO

If no, explain which deviations were made and why.

13. Are all coatings, chemical additives and construction materials ANSI/NSF or other adequate 3rd party approved?

☒ YES ☐ NO

If no, describe what coatings, additives or materials did not meet the applicable standard and why.

14. Are all water system facilities being installed in the public right-of-way or a dedicated utility easement? (For projects not located in the public right-of-way, utility easements must be shown on the plans.)

☒ YES ☐ NO

If no, explain how access will be obtained.

15. Is the project construction activity within a wetland (as defined by Section 324.30301(d)) of Part 303, 1994 PA 451?

☐ YES ☒ NO

If yes, a wetland permit must be obtained.

16. Is the project construction activity within a 100-year floodplain (as defined by R 323.1311(e)) of Part 31, 1994 PA 451, administrative rules?

☐ YES ☒ NO

If yes, a flood plain permit must be obtained.

17. Is the project construction activity within 500 feet of a lake, reservoir, or stream?

☐ YES ☒ NO

If yes, a Soil and Erosion Control Permit must be obtained or indicate if the owner listed in box 2 of this application is an Authorized Public Agency (Section 10 of Part 91, 1994 PA 451) ☒ Owner is APA.

Permit Application for Water Supply Systems (Continued)

18. Will the proposed construction activity be part of a project involving the disturbance of five (5) or more acres of land?
☒ YES ☐ NO

If YES, is this activity regulated by the National Pollutant Discharge Elimination System (NPDES) storm water regulations?

☐ YES: NPDES Authorization to discharge storm water from construction activities must be obtained.

☒ NO: Describe why activity is not regulated.

City is it's own APA.

Please call 517-241-8993 with questions regarding the applicability of the storm water regulations.

19. Is the project in or adjacent to a site of suspected or known soil or groundwater contamination?
☐ YES ☒ NO

If YES, attach a copy of a plan acceptable to EGLE for handling contaminated soils and/or groundwater disturbed during construction. Contact the local EGLE district office for listings of Michigan sites of environmental contamination.

20. IF YOU ARE A CUSTOMER/WHOLESALE/BULK PURCHASER, COMPLETE THE FOLLOWING

1. Name and WSSN of source water supply system (seller): NA
2. Does the water service contract require water producer/seller to review and approve customer/wholesale/bulk purchaser water system construction plans?

☐ YES ☐ NO

If yes to #2, the producer/seller approval letter must be attached when submitted to EGLE.

21. **Owner's Certification** The owner of the proposed facilities or the owner's authorized representative shall complete the owner's certification. It is anticipated that the owner will either be a governmental agency (city, village, township, county, etc.) or a private owner (individual, company, association, etc.) of a Type I public water supply.

OWNER'S CERTIFICATION

I, David S Boyle, P.E. (name), acting as the City Engineer (title/position) for
(print) (print)

City of Sault Ste. Marie (entity owning proposed facilities) certify that this project has
(print)

been reviewed and approved as detailed by the Plans and Specifications submitted under this application, and is in compliance with the requirements of 1976 PA 399, as amended, and its administrative rules.


 Signature*

8/8/2022 906-632-5733
 Date Phone

*Original signature only, no photocopies will be accepted.

Permit Application for Water Supply Systems (Continued)

PROJECT BASIS OF DESIGN – FOR WATER MAIN PROJECTS

PROJECT NAME: Meridian St. Reconstruction Easterday Ave. to 8th St.

For this PROJECT the following information must be provided per Act 399 unless waived by the Department. For projects other than water main installation, or if additional space is needed, attach separate sheet(s) with detailed Basis of Design calculations.

- A. A general map of the initial and ultimate service areas
☐ Included on engineering plans ☐ Attached separately
- B. Number of service connections served by this permit application 15
- C. Total number of service connections ultimately served by entire project 16
- D. Residential Equivalent Units (REUs) served by this permit application 475
- E. Total Residential Equivalent Units (REUs) ultimately served by entire project 477
- F. Water flow rates for proposed project based on REUs listed in "D" and "E" above
1. Initial design average day flow (mgd) 0.02
 2. Initial design maximum day flow (mgd) 0.10
 3. Total design average day flow (mgd) 0.02
 4. Total design maximum day flow (mgd) 0.10
 5. Required fire flows: ⁽¹⁾ 2000 gpm for 2 hours
- G. Actual flows and pressures of existing system at the connection point(s) ⁽²⁾
- | | | | | |
|---------------------------|-------------|--------|-----------|-----|
| Merridian @ Dillion St | <u>840</u> | gpm at | <u>25</u> | psi |
| Washington Way & 4th Ave | <u>920</u> | gpm at | <u>30</u> | psi |
| Meridian @ 4th | <u>1000</u> | gpm at | <u>32</u> | psi |
| Meridian @ Physical Plant | <u>650</u> | gpm at | <u>10</u> | psi |
| Meridian @ 8th Ave | <u>1060</u> | gpm at | <u>40</u> | psi |
- H. Estimated minimum flows and pressures within the proposed water main system ⁽³⁾ 122.62 gpm at 22.33 psi

- (1) Every water system must decide what levels of firefighting flows they wish to provide. Fire flow should be appropriate for the area (residential, commercial, industrial) being served by the project. Typical fire flow rates can be obtained from the water supply, local fire dept., ISO or AWWA. The water system must then be designed to be able to provide the required fire flows while maintaining at least 20 psi in all portions of the distribution system.
- (2) Flows and pressures at the connection points must be given to determine if the existing water main(s) are able to deliver water to the new service area. These numbers can be obtained from a properly modeled and calibrated distribution system hydraulic analysis or hydrant flow tests performed in the field. If more than one connection is proposed, list as needed.
- (3) List what the estimated minimum flows can be expected in the proposed water mains based on estimated water demands, head losses, elevation changes and other factors that may affect flows, such as dead end mains.

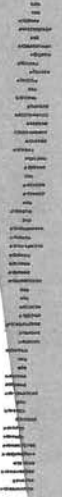
EGL
401 Ketchum St - Suite B
Bay City, MI 48708

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David Boyle
City of Sault Ste. Marie
225 E Portage
Sault Ste. Marie MI-49783



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT FOR CONSTRUCTION OF WASTEWATER SYSTEMS

SITE NAME:	Sault Ste Marie CM
PERMITEE CONTACT NAME:	Dave Boyle, PE
PERMITEE CONTACT PHONE NUMBER:	(906) 632-5733
PERMITEE CONTACT EMAIL:	dboyle@saultcity.com
SITE COUNTY:	Chippewa


PERMIT NUMBER:	P41003923 v. 1
PERMIT ISSUED DATE:	08/15/22
ISSUED TO:	City of Sault Ste. Marie
PROJECT NAME:	Meridian St Easterday to 8th Reconstruction
PROJECT LOCATION:	Meridian Street

APPLICATION SUBMISSION NUMBER: HPK-3C8D-T9T93

REQUIRED NOTIFICATIONS: The permittee shall provide Startup Notification (just prior to excavation) and Completion Notification (upon completion of the project) per the permit schedules in MiWaters.

**ISSUED UNDER THE AUTHORITY OF THE DIRECTOR
OF THE DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)**

Issued By:


Scott W. Richards, PE Environmental Engineer

Reviewed By:

[SAME]
[SAME]

cc: Logan Schmutzler – City of Sault Ste Marie (lschmutzler@saultcity.com)

GENERAL PERMIT CONDITIONS

- a. This **PERMIT** only authorizes the construction, alteration, addition, or improvement of the wastewater system as described herein and is issued solely under the authority of Part 41 of Act 451.
- b. Issuance of this **PERMIT** does not authorize any violation of federal, state, or local laws or regulations, nor does it obviate the need to obtain other permits or approvals from EGLE or other units of government as may be required by law.
- c. This **PERMIT** expires two (2) years after the above date of issuance unless construction starts prior to the expiration date in accordance with R 299.2939(2) of the Part 41 Administrative Rules.
- d. Any portion of the herein described facilities constructed prior to the date of issuance is not authorized by this **PERMIT** and is a violation of Act 451.
- e. No sewer shall be placed into service unless and until the outlet sewer has been constructed, tested, and placed into service.
- f. Failure to meet any condition of this **PERMIT** or any requirement of Act 451 constitutes a violation of Act 451.
- g. The applicant must provide notice of impending construction to public utilities and comply with the requirements of the Underground Facility Damage Prevention and Safety Act, PA 174 of 2013, as amended (MISS DIG).
- h. All earth changing activities must be conducted in accordance with Part 91, Soil Erosion and Sedimentation Control, of Act 451.
- i. All construction activity, including groundwater dewatering, impacting wetlands shall be conducted in accordance with Part 303, Wetlands Protection, of Act 451.
- j. If water withdrawal, via dewatering activities, is associated with this project, authorization under Part 327 is required for new or increased large quantity withdrawals over 100,000 gallons per day. A Part 327 permit is required for new or increased large quantity withdrawals over 2,000,000 gallons per day.

SPECIAL PERMIT CONDITIONS

1. There shall be no visible turbidity in the storm water runoff or water from site dewatering operations that is discharged to the surface waters of the State due to construction activity associated with this project.
2. A construction permit for the activities regulated under the provision of the Soil Erosion and Sedimentation Control Act shall be obtained and all control measures shall be installed prior to starting any construction work authorized under this permit.
3. Sanitary sewer pipe shall comply with and be installed in accordance with current ASTM designation.
4. Minimum isolation distance of 10' horizontal and 18" vertical between sewer and water mains.
5. Trench: Provide min. 4" clearance around pipe in rock, boulders and large stones.
6. Unless unfeasible due to maintaining sanitary service, all pipe shall be tested for leakage, infiltration/exfiltration not to exceed 100 gallons per inch of pipe diameter per mile per day.
7. If contaminated soils are encountered, please contact the EGLE RRD UP District Supervisor.

8. This permit only authorizes construction of the sanitary facilities listed herein. This permit does not authorize work in regulated wetland/stream areas. Proper permits must first be obtained from this Department before any work in regulated wetland/stream areas commence.
9. Upload as-built record documents in electronic (.pdf) format per the schedule established in MiWaters.

FACILITIES DESCRIPTION

Installation of 2258 feet of 10 Inch Sanitary Sewer in Meridian Street from 64 feet north of West 8th Avenue to 45 feet north of Dillon Street. Also, installation of 343 feet of 8-Inch sanitary sewer on West 4th Avenue from 343 feet west of Meridian Street to Meridian Street.

CITY OF SAULT STE. MARIE
SPECIAL PROVISION
FOR
**MAINTAINING TRAFFIC FOR
MERIDIAN STREET – WEST EASTERDAY TO WEST 8TH**

City of Sault Ste. Marie

1 of 4

11/2023

a. General. Traffic shall be maintained in accordance with Sections 103, 104 and 812 of the 2020 Michigan Department of Transportation Standard Specifications for Construction, including any Supplemental Specifications, and as herein specified. All traffic control devices and their usage shall comply with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as amended, including any Supplemental Specifications, and as herein specified.

The Contractor shall notify the Project Engineer a minimum of 72 hours prior to the implementation of any road closures, or lane closures and major traffic shifts.

The project will be open to local traffic within the specified construction limits during the specified contract times. All areas within the Construction Influence Area (CIA) shall have local traffic maintained at all times throughout the duration of the project, except as noted within this special provision. The property owners and emergency vehicles shall be assured of access to all properties. The project may only be temporarily closed to local traffic after approval is given from the City of Sault Ste. Marie. Any changes to the construction signing, CIA or construction staging shall be approved by the City of Sault Ste. Marie prior to implementation.

The City of Sault Ste. Marie and/or Contract Maintenance Agencies may perform maintenance work within or adjacent to the CIA. These maintenance crews will coordinate their operations with the Project Engineer to minimize the interference to the Contractor. No additional payment will be made to the Contractor for the joint use of the traffic control items.

The Contractor shall be responsible for notifying emergency services throughout construction regarding closures, direction of access, etc.

Traffic regulator control is included in the project, for use by the Contractor as needed, at either or both ends of the project limits.

b. Construction Influence Area (CIA). The CIA shall consist of the width of the area of the trail placement, as well as the width of the right-of-way of all intersecting roads and streets, to warn motorists of the construction ahead.

c. Traffic Restrictions.

1. No work nor lane closures will be allowed during the following periods:

a. Holiday

- Memorial Day from 3:00 pm on Friday 5/24/2024 to 6:00 am on Tuesday 5/28/2024.
- Independence Day from 3:00 pm on Wednesday 7/03/2024 to 6:00 am on Friday 7/05/2024.
- Labor Day from 3:00 pm on Friday 8/31/2024 to 6:00 am on Tuesday 9/03/2024.

b. Special Events

- Lake Superior State University Commencements from 3:00 pm Friday 05/03/2024 to 6:00 am Sunday 5/5/2024
- Lake Superior State University Move In and LakerPalooza Week from 3:00 pm Sunday 8/18/2024 to 6:00 am Saturday 8/24/2024

2. Conduct all work during daytime hours only.

3. Maintain driveway access to all businesses and residences during construction. Prior to any temporary closures, coordinate with affected owners during construction.

4. Maintain access to all sidewalks and ramps during construction or as directed by the Engineer.

5. Provide access to residences during construction. This may include accommodations for ADA compliant ingress/egress to homes.

6. Access to side roads may be restricted for short durations at specific locations as directed by the Engineer. Where an intersection is closed or partially closed, keep the adjacent side streets open to traffic. Do not close more than two local side streets at any one time.

7. Once work is initiated that includes any lane restrictions, continue until that work is completed. Remove any lane restrictions where no work has taken place for more than 1 week. No additional payment will be made for removal or replacement of lane restrictions resulting from a lack of work.

d. Traffic Control Devices. All signs, barricades, warning lights and other traffic control devices shall be in accordance with the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as amended. Type III barricades shall be lighted and reflectorized on both sides.

The Contractor shall refer to the following MDOT Maintaining Traffic Typical WZD-100-A, WZD-125-E, and 101-GEN-SPACING-CHARTS.

e. Traffic Control. The traffic control required by this Special Provision for work on Meridian Street – W Easterday to West 8th Street and adjacent roadways is to erect and maintain signs for through traffic when specified or detour signing as shown in the plans or otherwise approved to implement a road closure to through traffic when specified.

Construction will be divided into two portions: Easterday Ave to 4th St and 4th St to 8th St with separate detours. The contractor shall maintain access for all necessary businesses and residents.

Easterday Ave to 4th St:

- Existing roadway will be removed and replaced with a new structure.
- Replace/Line watermain and sanitary sewer.
- Complete curb, drainage, and shoulder work.
- Pave the shared use path.

4th St to 8th St:

- Existing roadway will be removed and replaced with a new structure.
- Replace/Line utilities.
- Drainage and shoulder work.
- Some areas of curb work.
- Pave the shared use path.

8th St to POB

- Pave the shared use path.

Maintain local traffic as provided herein and in the project plan sheets. An alternate traffic control plan may be used by the Contractor, subject to review and approval by both the Engineer and Local Agency.

The Contractor shall provide access to all properties within the Construction Zone for the duration of the project

f. Pedestrian or Non-Motorized Facilities. Maintain all facilities in accordance with *The Americans with Disability Act* (ADA) requirements. Provide facilities equivalent to or better than the route a person would have encountered prior to construction activities.

Close and detour any sidewalk ramps and crosswalk areas to pedestrian traffic that are impacted by the work. Cover pedestrian signal heads when the crosswalk or ramp is affected.

Keep sidewalk areas clear of any equipment or materials at all times the sidewalks are open to pedestrian traffic.

g. Measurement and Payment. The estimate of quantities for maintaining traffic on this project is based on the proposed project's scope of work described in this Special Provision.

Payment for temporary signs will be made on the maximum square feet of dissimilar sign legends in use at any one time during the project.

Any additional signing or maintaining traffic devices required to expedite the construction will be at the Contractor's expense.

Payment for covering temporary traffic control signs, as directed by the Engineer, shall be included in the cost of Sign, Type B, Temp, Prismatic, Furn.

Payment for temporary pedestrian ramps, temporary pedestrian ramps, shall be included in the cost of Pedestrian Path, Temp and Pedestrian Ramp, Temp.

Payment for pedestrian barricades shall be included in the cost of Pedestrian Type II Barricade, Temp

Payment for the maintaining traffic devices shall be in accordance with the 2020 edition of the Michigan Department of Transportation Standard Specifications for Construction, as revised, unless otherwise specified.

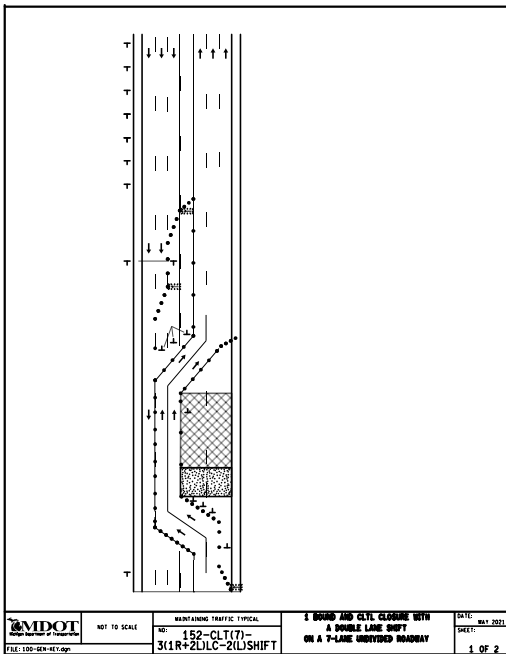
Contractor shall be responsible for staking the locations of the construction signs, for Miss Dig notification and for the setting of the signs.

TYPICAL NUMBER KEY

CODES

AB = ARROW BOARD
 AW = ADVANCE WARNING
 C = CLOSURE
 CLT = CENTER LEFT TURN LANE
 CROSS = CROSSOVER
 CruSha = CRUSH AND SHAPE
 EM = EARLY MERGE
 EnR = ENTRANCE RAMP
 ExR = EXIT RAMP
 FW = FREEWAY
 GEN = GENERAL INFORMATION
 GORE = FREEWAY GORE AREA
 IN = INSIDE
 INT = INTERSECTION
 L = LANE
 (L) = LEFT
 LC = LANE CLOSURE
 LD = LONG DURATION

LO = LANE OPEN
 O = OUTSIDE (LANE CLOSURE)
 OUT = OUTSIDE OF SHOULDER
 MID = MIDDLE OF INTERSECTION OR ROAD
 NFW = NON-FREEWAY
 PARK = PARKING LANE
 PCMS = PORTABLE CHANGEABLE MESSAGE SIGN
 (R) = RIGHT
 ROLL = ROLLING ROADBLOCK
 RUM = RUMBLE STRIP
 SD = SHORT DURATION
 SHL = SHOULDER CLOSURE
 SIGN = SIGN
 SP = SPECIAL
 SPEED = SPEED
 STA = STOPPED TRAFFIC ADVISORY
 TR = TRAFFIC REGULATOR
 TS = TEMPORARY SIGNAL
 ZIP = ZIPPER MERGE



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

EXAMPLE TYPICAL

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

152 - TYPICAL NUMBER

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

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

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

NOT TO SCALE

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

FILE: 100-GEN-KEY.dgn

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

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

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

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

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

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

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

NOT TO SCALE

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

FILE: 101-GEN-SPACING-CHARTS.dgn

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

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

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

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

TYPES OF TAPERS

UPSTREAM TAPERS

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

TAPER LENGTH

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

DOWNSTREAM TAPERS

(USE IS RECOMMENDED)

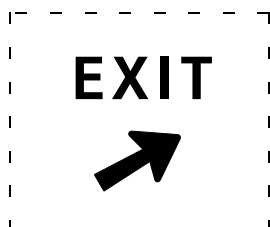
100' (PER LANE)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

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

SIGN OUTLINE KEY

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



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



NOT TO SCALE

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

FILE: 101-GEN-SPACING-CHARTS.dgn

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

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

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

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

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

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

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

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

SIGN NOTES

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

TRAFFIC REGULATOR NOTES

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

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

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

RAMP NOTES

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

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

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

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

MAINTENANCE AND SURVEYING NOTES

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



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE:
MAY 2022

SHEET:

2 OF 2

FILE: 102-GEN-NOTES.dgn

SIGN NUMBER KEY



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



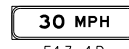
E5-2
48" x 36"



E5-2a
48" x 36"



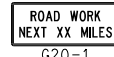
E5-3
48" x 36"



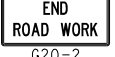
E13-1P
VAR x 24"



E13-1aP
36" x 24"



G20-1
60" x 24"



G20-2
48" x 24"



G20-4
36" x 18"



I-6a
18" x 18"
24" x 24"
30" x 30"



M1-1
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-1
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-2
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-2
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-3
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-3
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-4
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-4
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-5
18" x 18"
24" x 24"
30" x 30"
36" x 36"



M1-5a
18" x 18"
24" x 24"



M1-6
18" x 18"
24" x 24"
36" x 36"



M1-6
22.5" x 18"
30" x 24"
45" x 36"



M3-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-2
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-3
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-4
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-1a
12" x 6"
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24" x 12"
30" x 15"
36" x 18"



M4-2
12" x 6"
18" x 9"
24" x 12"
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36" x 18"



M4-3
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18" x 9"
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36" x 18"



M4-4
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30" x 15"
36" x 18"



M4-5
12" x 6"
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36" x 18"



M4-6
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M4-7
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36" x 18"



M4-7a
12" x 6"
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24" x 12"
30" x 15"
36" x 18"



M4-8
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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
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18" x 12"
21" x 15"
30" x 21"



M6-2L
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18" x 12"
21" x 15"
30" x 21"



M6-2R
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18" x 12"
21" x 15"
30" x 21"



M6-3
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18" x 12"
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30" x 21"



M6-4
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18" x 12"
21" x 15"
30" x 21"



M6-5
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-6L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-6R
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-7L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-7R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

1 OF 5

FILE: 103-GEN-SIGN.dgn

SIGN NUMBER KEY

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

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

 FILE: 103-GEN-SIGN.dgn	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS SIGN SHEET	DATE: JUNE 2021
		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"



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



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



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



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



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



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



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



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



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



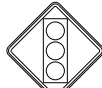
W1-8R
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



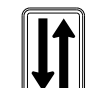
W6-1
30" x 30"
36" x 36"
48" x 48"



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



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



W6-4
12" x 18"



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



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



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

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

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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"
24" x 24"
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 24"
36" x 36"
48" x 48"



W8-14
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-15
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-15P
24" x 18"
30" x 24"
36" x 30"



W8-17L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-17R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-17P
24" x 18"
30" x 24"
36" x 30"



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



W8-23
24" x 24"
36" x 36"
48" x 48"



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



W8-25
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-26
36" x 36"
48" x 48"



W9-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W9-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W9-2L
30" x 30"
36" x 36"
48" x 48"



W9-2R
30" x 30"
36" x 36"
48" x 48"



W9-3C
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3L
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3R
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3a
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3b
30" x 30"
36" x 36"
48" x 48"
60" x 60"



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



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



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



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



W12-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W13-1P
18" x 18"
24" x 24"
30" x 30"



W13-2
24" x 30"
36" x 48"
48" x 60"



W13-3
24" x 30"
36" x 48"
48" x 60"



W13-4P
24" x 24"
36" x 36"



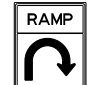
W13-6
24" x 42"
36" x 60"
48" x 84"



W13-6a
24" x 42"
36" x 60"
48" x 84"



W13-7
24" x 42"
36" x 60"
48" x 84"



W13-7a
24" x 42"
36" x 60"
48" x 84"



W14-3
36" x 24"
40" x 30"
48" x 36"
64" x 48"



W16-2P
18" x 12"
24" x 18"
30" x 24"



W16-4aP
18" x 12"
24" x 18"
30" x 24"
36" x 30"



W16-12P
24" x 18"



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



W20-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1b
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1c
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1d
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-2
30" x 30"
36" x 36"
48" x 48"



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



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

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

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FILE: 103-GEN-SIGN.dgn

SIGN NUMBER KEY



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



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



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



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



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



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



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



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



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



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



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



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



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



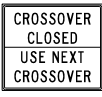
W20-5aR3
30" x 30"
36" x 36"
48" x 48"



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



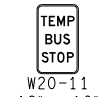
W20-8
24" x 18"



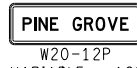
W20-9
54" x 48"



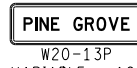
W20-10
48" x 24"
66" x 30"



W20-11
12" x 18"



W20-12P
VARIABLE x 12"



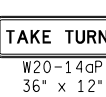
W20-13P
VARIABLE x 12"



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



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



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



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



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



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



W20-15c
48" x 54"



W20-15d
48" x 54"



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



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



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



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



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



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



W21-4
36" x 18"



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



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



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



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



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



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



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



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



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



W22-2
42" x 36"



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



W23-1
48" x 24"



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

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

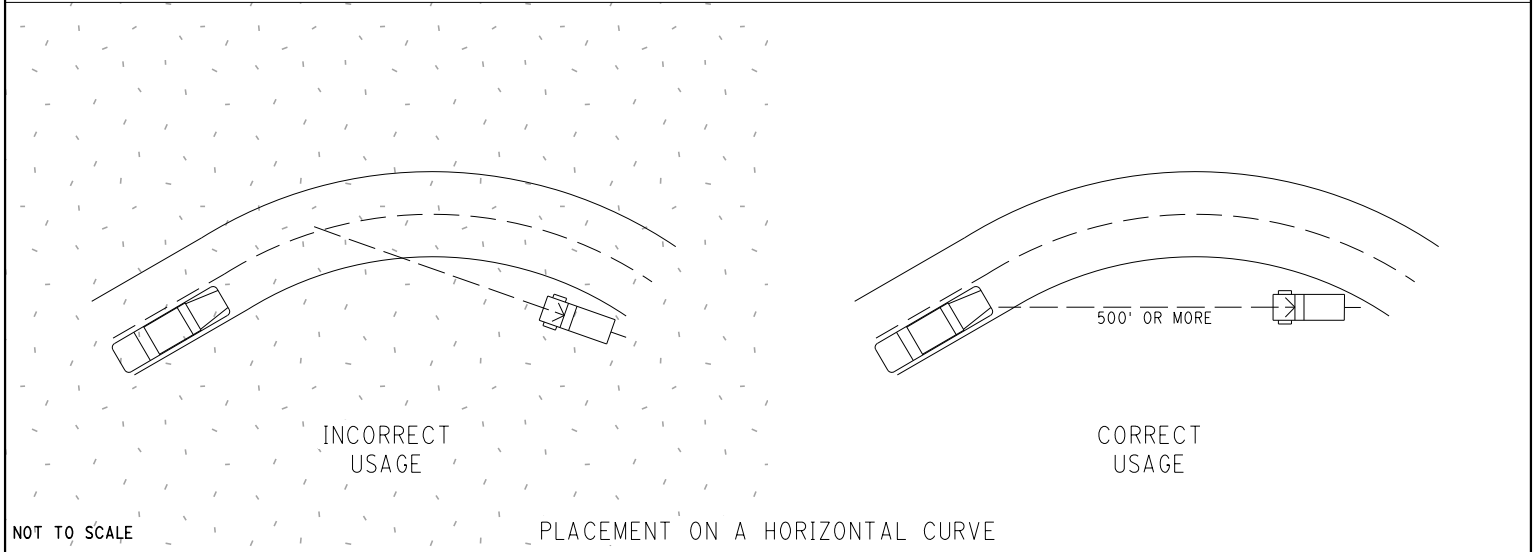
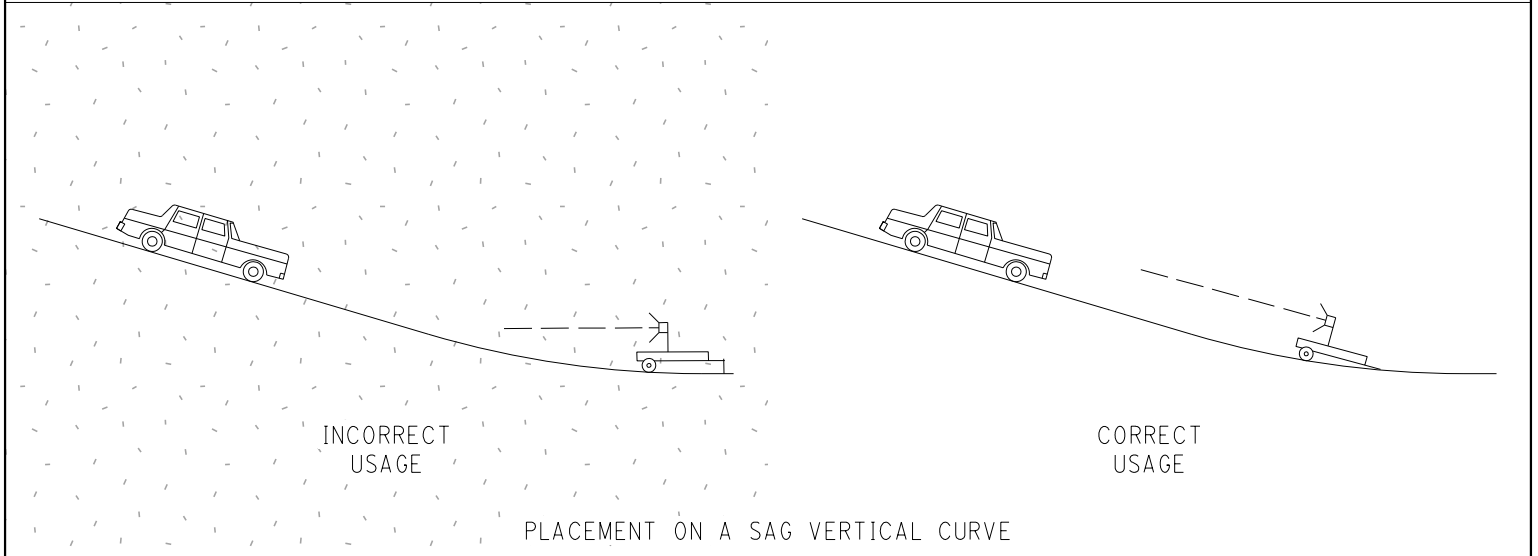
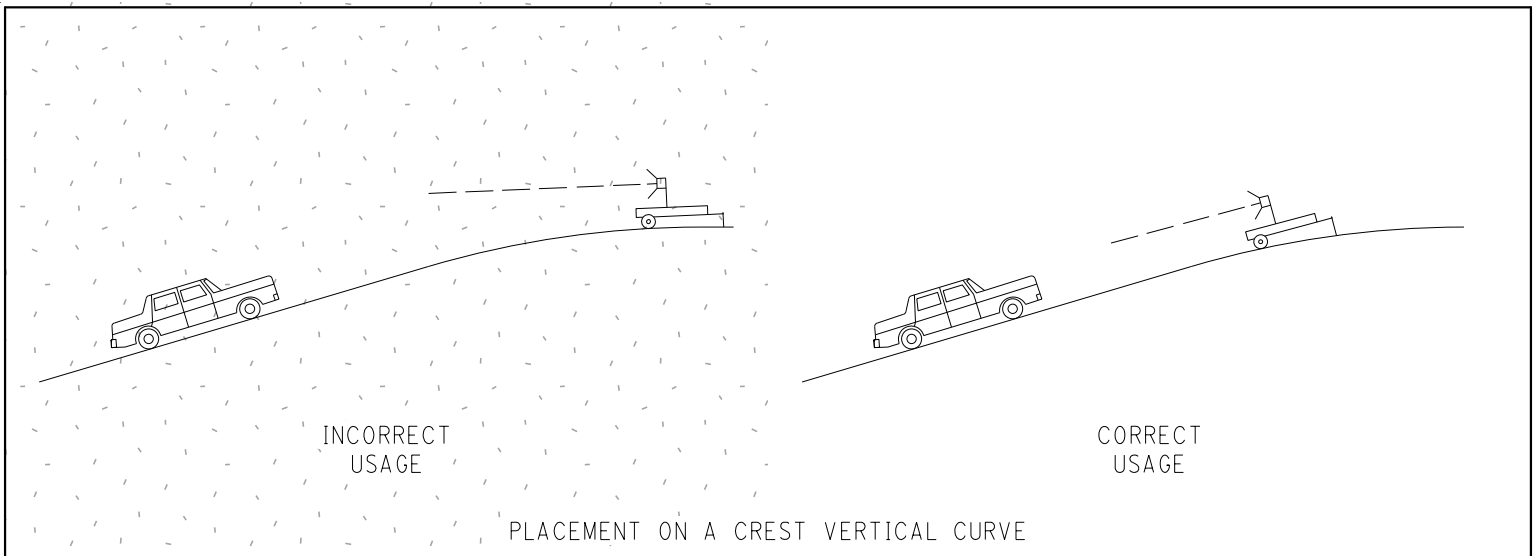
TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

5 OF 5

FILE: 103-GEN-SIGN.dgn



NOTE:

ENSURE THE ARROW REMAINS CLEARLY LEGIBLE AT DISTANCES FROM 2,500 FEET TO 200 FEET, FROM ALL TRAFFIC LANES AND ROADWAY ENTRANCES. DO NOT PLACE THE LIGHTED ARROW ON A HORIZONTAL OR VERTICAL CURVE THAT MIGHT INTERFERE WITH THIS LEGIBILITY REQUIREMENT.

	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	USE OF ARROW BOARD ON HILL OR CURVE AND WORK ZONE LAYOUT	DATE: MAY 2021
		NO: 104-GEN-AB		SHEET: 1 OF 1

FILE: 104-GEN-AB.dgn

SIGN MATERIAL SELECTION TABLE

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


TYPE I ALUMINUM EXTRUSION
 TYPE II PLYWOOD
 TYPE III ALUMINUM SHEET

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

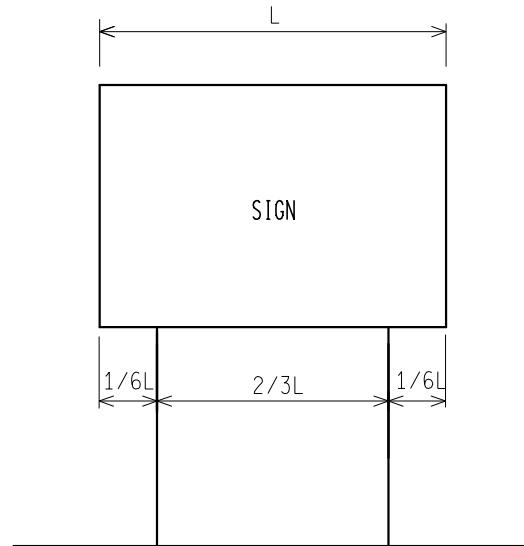
POST SIZE REQUIREMENTS TABLE

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

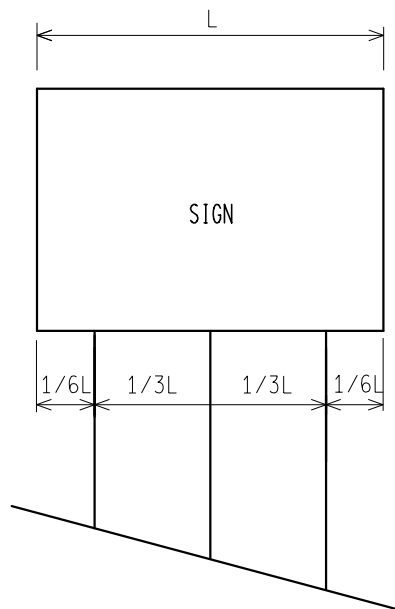
*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
 SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD
 POSTS DEPENDING ON AREA OF SIGN.
 A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

 PREPARED BY DESIGN DIVISION	DEPARTMENT DIRECTOR Kirk T. Steudle	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR <h3 style="margin: 0;">GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS</h3>		
	APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES			
	APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING



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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

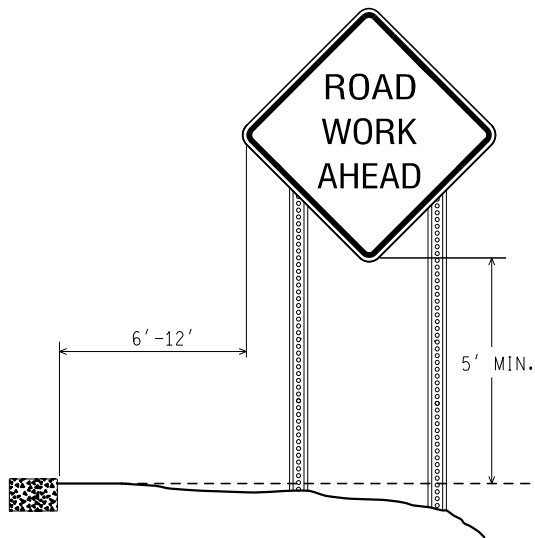
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

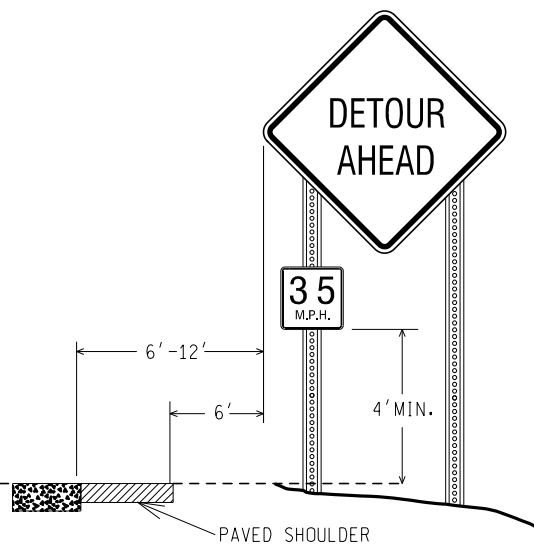
WZD-100-A

SHEET
2 OF 11

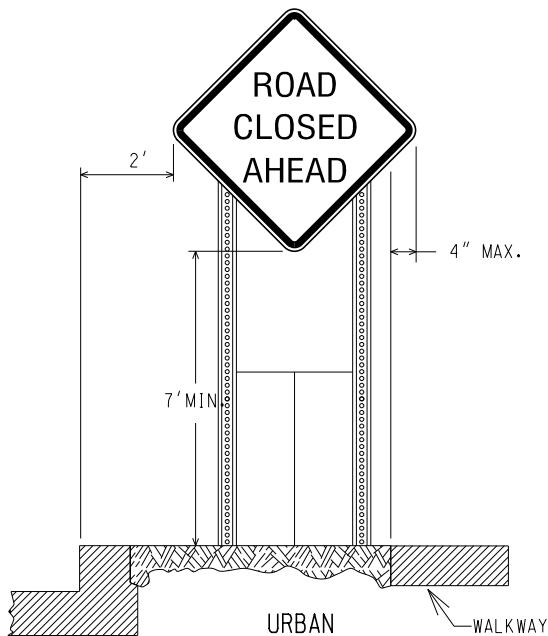
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



RURAL

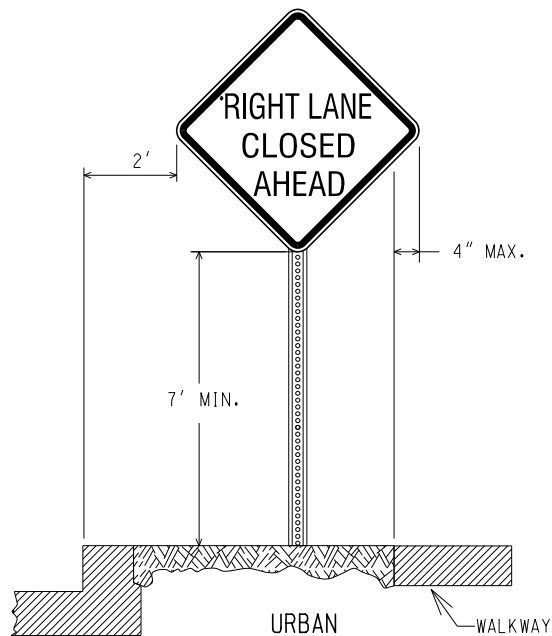


RURAL WITH ADVISORY
SPEED PLATE



URBAN

(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)



URBAN

(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

BOTTOM HEIGHT AND OFFSET

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

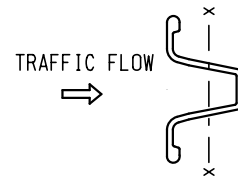
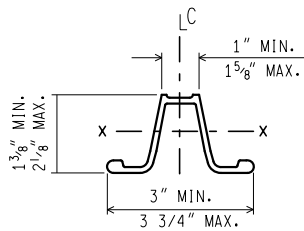
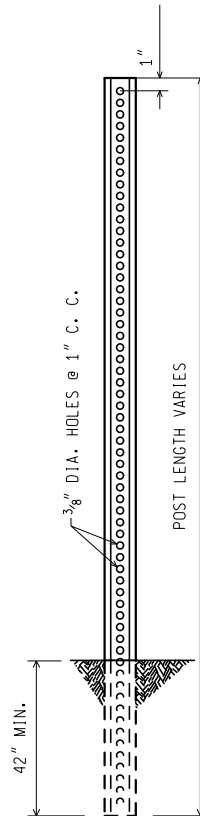
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

SHEET
3 OF 11

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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

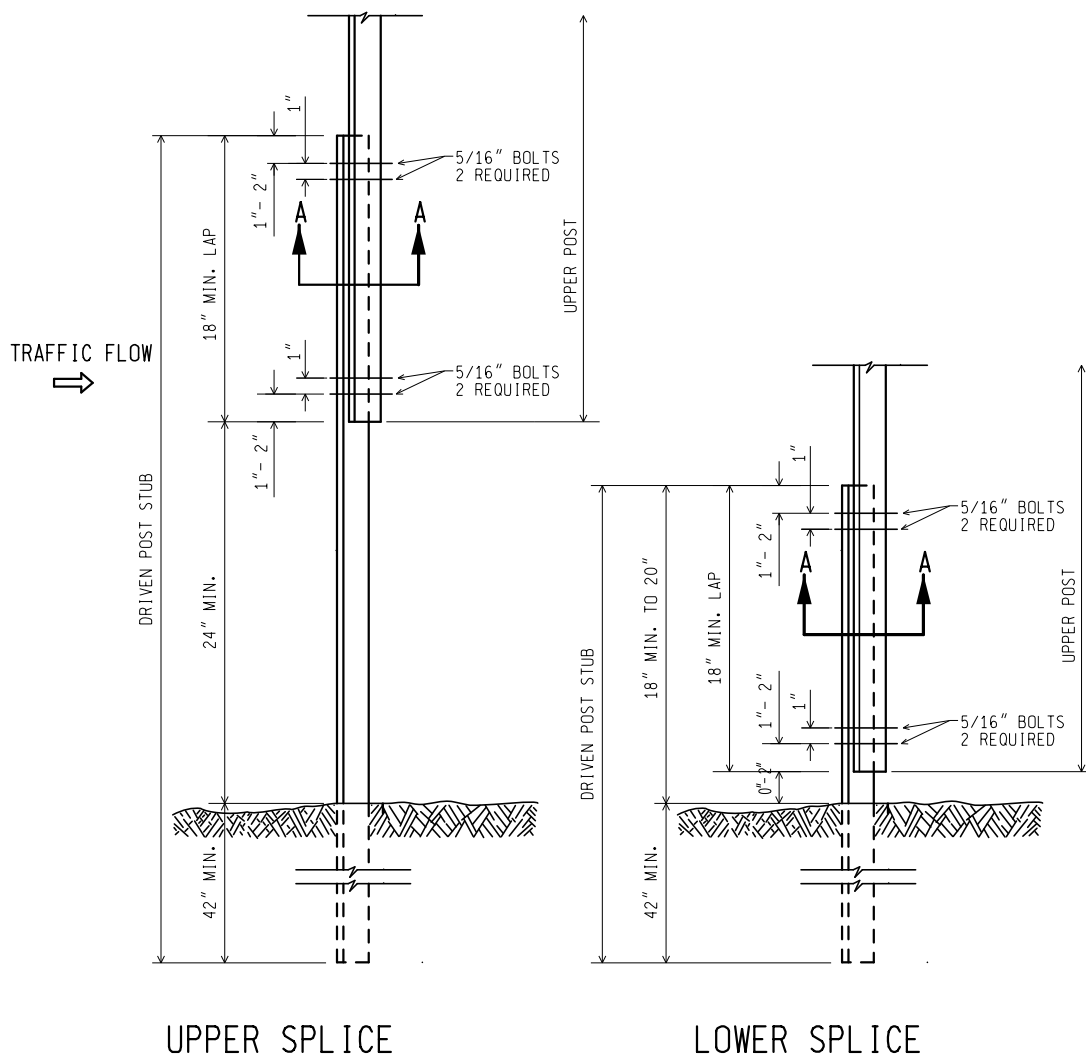
F.H.W.A. APPROVAL

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.



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

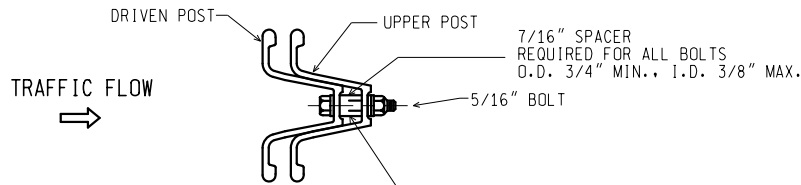
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

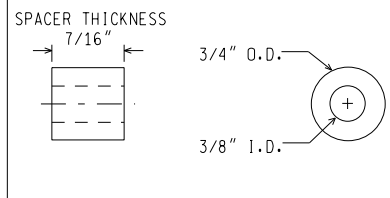
SHEET
5 OF 11

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SECTION A-A

SPACER DETAIL



NOTES:

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

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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

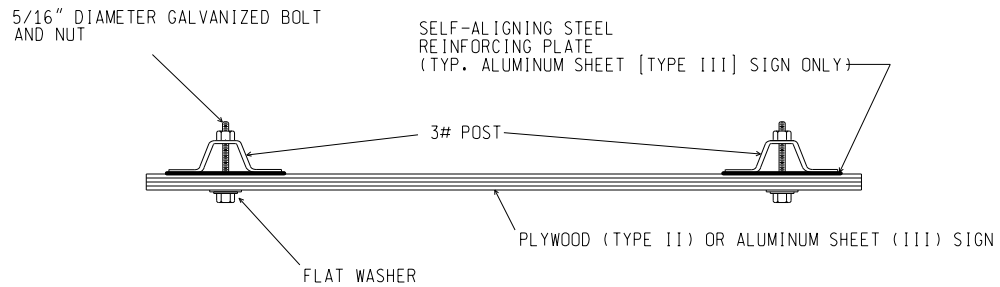
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

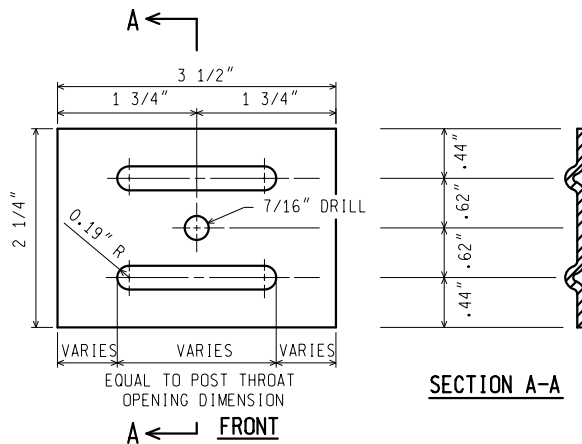
WZD-100-A

SHEET
6 OF 11

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



SIGN TO 3 lb. POST CONNECTION



NOTES: (FOR STEEL SIGN REINF' PLATE)

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

STEEL SIGN REINFORCING PLATE REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

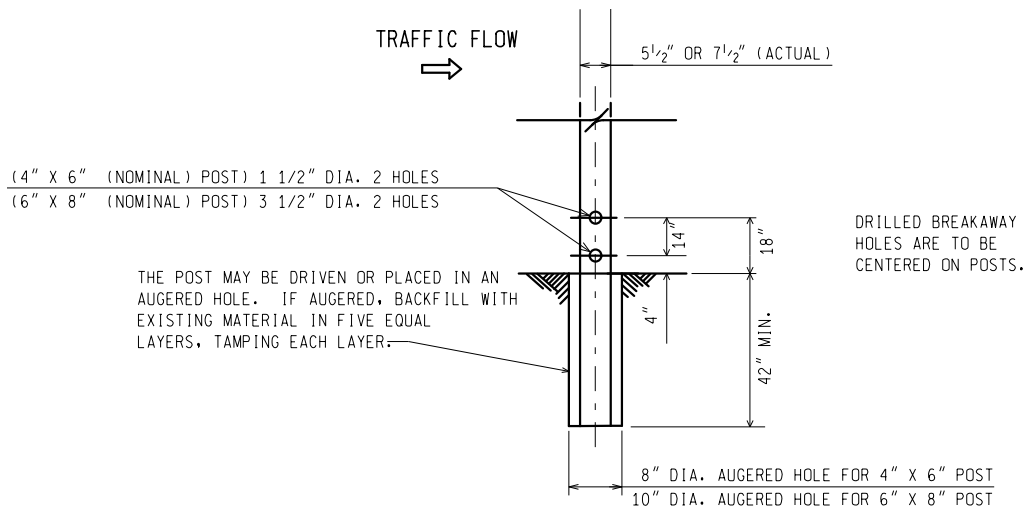
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

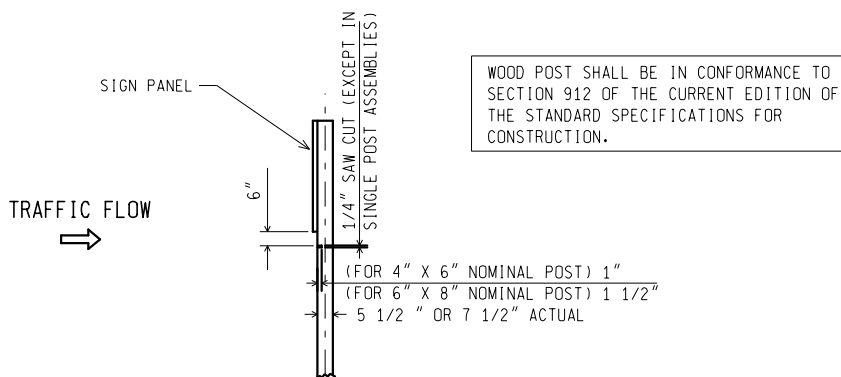
WZD-100-A

SHEET
7 OF 11

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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

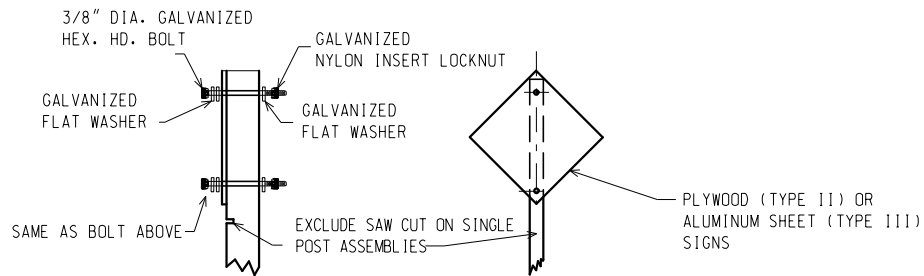
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

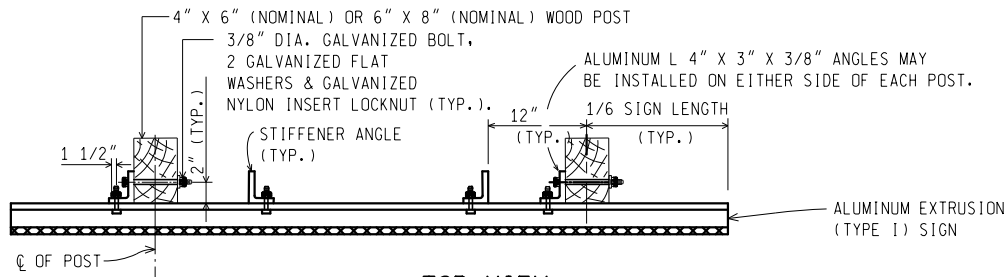
WZD-100-A

SHEET
8 OF 11

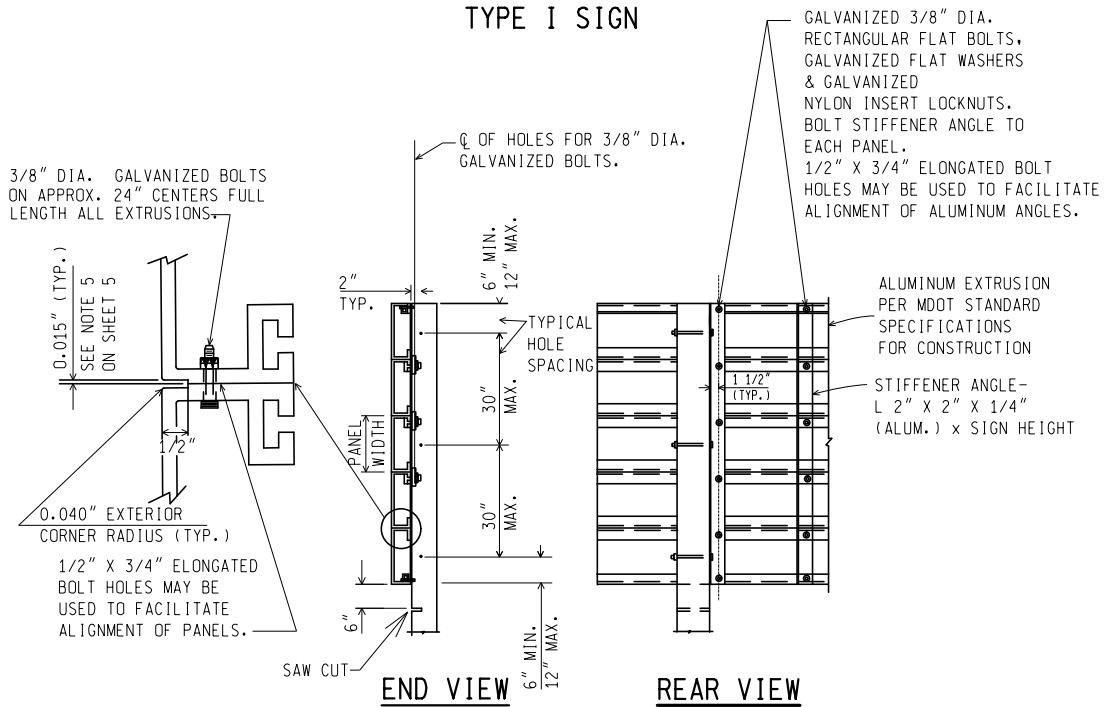
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



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

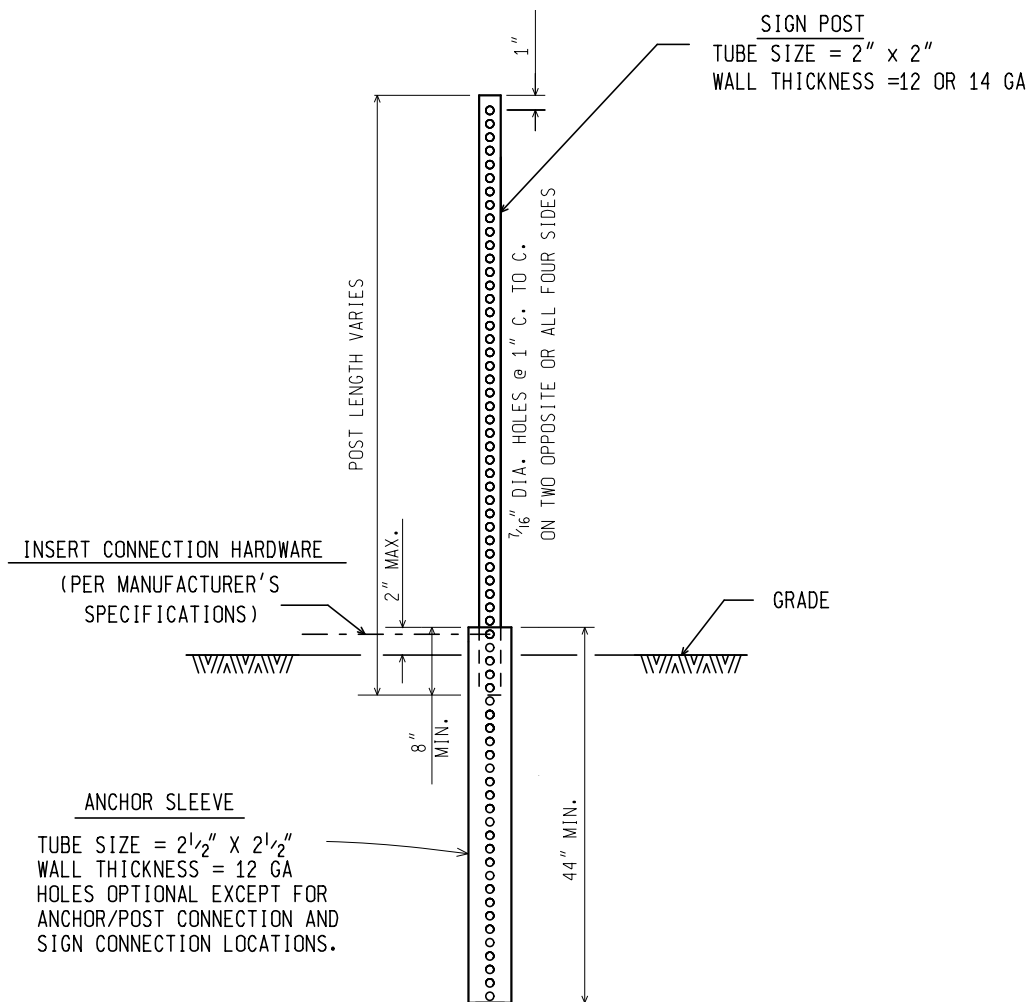
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

SHEET
9 OF 11

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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

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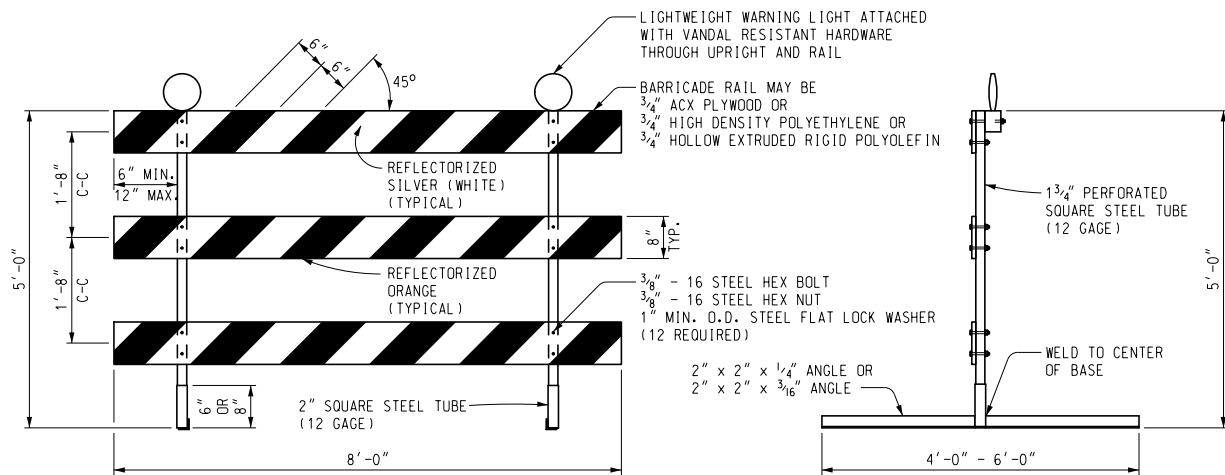
GENERAL NOTES:

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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 11 OF 11
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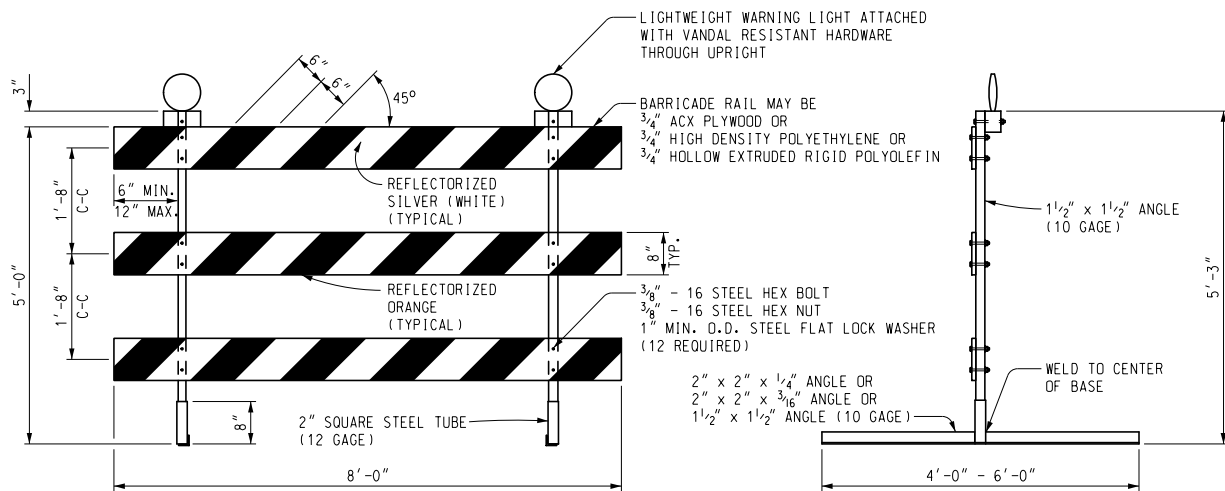
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



FRONT ELEVATION

SIDE VIEW

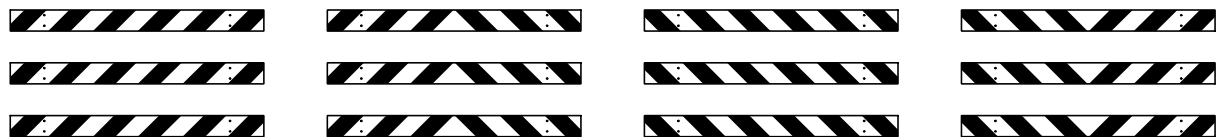
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION

SIDE VIEW

ANGLE IRON OPTION



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



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 57

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR

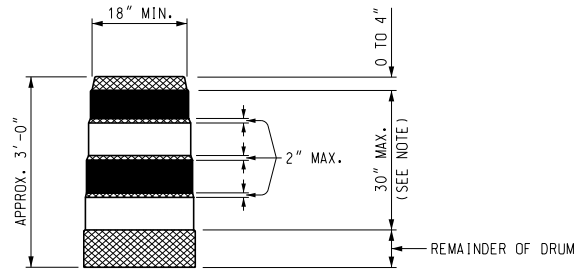
Temporary Traffic Control Devices

F.H.W.A. APPROVAL

6/16/22
 PLAN DATE

WZD-125-E

SHEET
 1 OF 3



- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- NON REFLECTORIZED ORANGE

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

PLASTIC DRUM

NOTES:

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

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

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

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

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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF FIELD SERVICES SPECIAL DETAIL

59

(SPECIAL DETAIL)
 F.H.W.A. APPROVAL

6/16/22
 PLAN DATE

WZD-125-E

SHEET
 3 OF 3

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MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
INSURANCE

CSD:LFS

1 of 1

APPR:CM:DBP:11-19-20

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

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

City of Sault Ste Marie
Chippewa County
Chippewa County Road Commission

CITY OF SAULT STE. MARIE

SPECIAL PROVISION
FOR
SPOIL AREA

City of Sault Ste. Marie

1 of 1

11/2023

- a. **Description.** This work consists of the following: The City will provide a spoil area for disposing of surplus or unsuitable material generated from utility construction and roadway earth work.
- b. **Materials.** Not applicable
- c. **Construction.** Dispose of surplus and unsuitable material in accordance with section 205 of the Standard Specifications for Construction and this special provision.
 - The disposal area of surplus and unsuitable material will be as illustrated on page 36 of the project plans.
- d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price of those pay items generating the materials.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
NON-STRUCTURAL FLOWABLE FILL

CFS:TES

1 of 1

APPR:DMG:TEB:04-01-21

a. Description. This work consists of furnishing and placing non-structural flowable fill for abandoning pipes and miscellaneous structures; constructing miscellaneous bulkheads or forms; and backfilling. This specification is not intended to address flowable fill used as structural backfill.

b. Materials. Supply non-structural flowable fill consisting of a mixture of Portland cement, fly ash, sand (2NS) and water. Use materials in accordance with the standard specifications except as modified by this special provision. All non-structural flowable fill once cured is intended to be removable using conventional mechanical excavation methods.

Use either Type I or IA Portland cement in accordance with section 901 of the Standard Specifications for Construction and Class F or C fly ash as specified by *ASTM C618* except that there is no limit on loss on ignition.

Produce a mix of cement, fly ash, sand, and water in the following proportions.

Portland Cement	50 pounds per cubic yard (lb/cyd)
Fly Ash	500 lb/cyd
Sand	2850 lb/cyd
Water	376 lb/cyd, approximately (sufficient to produce desired flowability)

c. Construction. Produce and deliver the non-structural flowable fill at a minimum temperature of 50 degrees Fahrenheit (F). Transport mixture to the point of placement in a revolving drum mixer or agitator.

Secure all pipes and conduits within the backfill area to counteract the buoyant effect of non-structural flowable fill. Place the material evenly around manholes and in utility trenches to avoid dislocating pipes and conduits.

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
Flowable Fill, Non-Structural.....	Cubic Yard

Flowable Fill, Non-Structural includes supplying and placing flowable fill for the purpose of abandoning pipes and miscellaneous structures and includes any necessary miscellaneous bulkheads for forms.

CITY OF SAULT STE. MARIE
SPECIAL PROVISION
FOR
GARBAGE PICKUP - SPECIAL

City of Sault Ste. Marie

1 of 1

05/2023

- a. **Description.** This work shall be done in accordance with the requirements of applicable sections of the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction*, except as follows.
- b. **Construction Methods.** The CONTRACTOR shall be required to provide for temporary weekly garbage pickup during utility installation or grading operations on the project. Because of roadway base conditions, the local sanitation company may not be able to access the residential areas for the normal weekly garbage pickup. The CONTRACTOR shall make any special hauling arrangements with the local sanitation company to service any affected areas during the roadway grading operations. The CONTRACTOR shall contact Green For Life (GFL), 3239 W M-28, Brimley, Michigan (Telephone 906-635-3380).
- c. **Materials.** N/A
- d. **Measurement and Payment.** Payment for this work shall be considered as having been included in the contract unit prices bid for other contract items.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HOT MIX ASPHALT PRICES FOR ADJUSTMENTS

MDOT:REL

1 of 1

APPR:MAS:NDM:02-16-23

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

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

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

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

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

CITY OF SAULT STE. MARIE

SPECIAL PROVISION
FOR

RESTORATION

City of Sault Ste. Marie

1 of 2

05/2023

A. **DESCRIPTION**

1. This work shall be done in accordance with the requirements of Sections 816,917, and other applicable sections of the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction*, except as follows.

2. **CONSTRUCTION METHODS**

1. All slopes and other disturbed areas along the project length shall receive the work of Restoration. The work of Restoration shall consist of the preparation and placement of a minimum of four inches (4") of topsoil surface, seeding, Mixture THM with Class A chemical fertilizer nutrient, mulch and anchoring mulch, on all disturbed areas throughout the project limits, as shown on the construction plans or as directed by the ENGINEER. The work of Restoration includes, but is not limited to, the areas affected by the installation of new sanitary sewer laterals or water main and water service laterals and new sidewalk or path installed under this project. Topsoil material and the proper preparation for the placement of topsoil shall be as specified under section.
2. Restoration shall include the restoration to pre-construction conditions of any existing ditches as applicable that may be disturbed during the course of the project. The CONTRACTOR shall be responsible for ensuring positive drainage when effecting the restoration of disturbed ditches. Four inches of topsoil and Mixture THM shall be placed on all restored ditch slopes.
3. Any settlement of topsoil surfaces shall be corrected by the CONTRACTOR. Correction of these areas shall include the placement of additional topsoil, seeding, Mixture THM, Class A chemical fertilizer nutrient, mulch and anchoring mulch as necessary.

3. **MATERIALS**

The topsoil used shall conform to the requirements of section 917. Seeding, Mixture THM; Class A chemical fertilizer nutrient; mulch and anchoring mulch shall conform to the requirements of section 816.

D. MEASUREMENT AND PAYMENT

1. In road reconstruction areas, restoration shall be measured by square yards and will include both sides of the roadway, including share use path. Maximum width will be 5 feet beyond slope stake line and 5 feet each side of sidewalk or path if outside the slope stake line.
2. In areas where only sidewalk or path construction takes place, restoration shall be measured by square yards along the edge line of sidewalks or path and will include both sides of the sidewalk or path where applicable. Maximum width each side of sidewalk or path will be 5 feet.
3. The completed work as measured will be paid for at the contract unit price for the following contract pay item(s) and includes all material, equipment and labor to complete this item.

PAY ITEM**PAY UNIT**

Restoration, Modified SYD

CITY OF SAULT STE. MARIE
SPECIAL PROVISION
FOR
**INSTALLATION, TESTING, AND DISINFECTING DUCTILE
IRON WATER MAINS AND APPURTENANCES**

City of Sault Ste. Marie

1 OF 16

11/2023

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The work covered by this section consists of furnishing all plant, labor, equipment and materials in connection with the construction of water mains including valves, hydrants, water service laterals and other appurtenances complete and ready for use. All work shall be accomplished by the latest accepted practice and in agreement with the manufacturer's recommendations.
- B. The water mains and appurtenant structures shall be constructed in the locations and of sizes and materials shown on the drawings, Proposal, Specification Section "*Water System Materials*" (WSM) and as directed by the ENGINEER. Excavation, backfilling and compaction shall be in accordance with these specifications. Work covered by this section will not be accepted until backfilling, restoration and testing connected with the work has been completed satisfactorily. Any section of water main that is found defective in material, alignment, or joints, before acceptance, shall be corrected to the satisfaction of the ENGINEER.

1.02 STANDARDS AND REFERENCES

- A. References:
 - 1. ANSI refers to the American National Standards Institute.
 - 2. AWWA refers to the American Water Works Association.
 - 3. MDOT refers to the Michigan Department of Transportation 2020 Standard Specifications for Construction.
 - 4. MIOSHA refers to the Michigan Occupational Safety and Health Act.
 - 5. MMUTCD refers to the Michigan Manual of Uniform Traffic Control Devices.
 - 6. EGLE refers to the Michigan Department of Environment, Great Lakes and Energy.
- B. Installation:
 - 1. Shall conform to the latest revision of AWWA Standard C600 with exceptions as contained within this specification section.
- C. Testing:
 - 1. Shall conform to the latest revision of the AWWA C600 including continuity testing and shall be completed in accordance with City of Sault Ste. Marie Water Department provisions (see Section 1.10).
- D. Disinfecting and Flushing Water Mains:
 - 1. Shall conform to the latest revision of AWWA C651 and shall be completed in accordance with City of Sault Ste. Marie Water Department

and EGLE provisions.

1.03 INSTALLATION AND CONSTRUCTION METHODS

A. Lines and Grades:

1. All lines and hydrant, valve and curb stop locations shall be established by the ENGINEER. The CONTRACTOR shall be responsible for the preservation of line stakes when set, and if disturbed, he shall pay the actual cost of replacing such stakes. The CONTRACTOR shall keep the ENGINEER informed at least 2 working days in advance of the times and places that stakes will be required, in order that the work may be done without inconvenience to the ENGINEER or delay to the CONTRACTOR.

B. Clearances:

1. Water mains shall be installed with a separation of ten (10) feet measured horizontally and a separation of twelve (12) inches measured vertically from any sewer line as minimum isolation distances.

C. Trench Preparation:

1. Shall proceed in advance of pipe installation with maximum 100 lineal feet of trench open between excavation and backfilling operations.

D. Grading:

1. All grading in the vicinity of the trench excavation shall be controlled to prevent surface water from flowing into the trenches. During excavation, materials suitable for backfilling shall be piled in an orderly manner a sufficient distance back from the edges of the trenches to avoid overloading or to prevent slides or cave-ins and in accordance with the applicable provisions of the MIOSHA safety regulations. Materials unsuitable for backfilling shall be wasted as directed by the ENGINEER and disposed of by the CONTRACTOR in accordance with 1.06.

E. Protection of Excavation:

1. The CONTRACTOR shall provide suitable sheathing, shoring and bracing to protect all excavations as required to provide safe working conditions in conformance with MIOSHA safety regulations. Damage resulting from settlement, slides, cave-ins, water pressure and other causes due to improper shoring, bracing or sheathing shall be repaired by the CONTRACTOR at his/her expense.
2. The CONTRACTOR shall provide MMUTCD approved, and an adequate number of; signs, barricades, amber warning lights, traffic regulators (flag person) and watchperson, and take all necessary precautions for the protection of the workers, the work, and the safety of the public. All barricades and obstructions shall be protected at night by amber warning lights, which shall be kept lighted from sunset to sunrise. Suitable signs shall be placed so as to show in advance where construction, barricades or detours exist.
3. The CONTRACTOR shall at all times perform his/her work so as to insure the least possible obstruction to traffic or inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property in a manner satisfactory to the ENGINEER. No road or street shall be closed to the public except with the permission of the ENGINEER and with the permission and proper

permit from the City of Sault Ste. Marie or the MDOT as applicable. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to insure the use of sidewalks, and the proper functioning of all gutters, sewer inlets, drainage ditches and other facilities, which shall not be obstructed, except as approved by the ENGINEER.

F. Valves, Fittings and Hydrants:

1. Shall be installed at locations indicated on the plans. All valves shall be set plumb and provided with a valve box unless the plans and specifications indicate the construction of a valve manhole. The valve shall be centered within the valve box and with the box cover set at 1/4" to 3/8" below a bituminous or concrete surfaced street or 3 inches below the level of an unimproved (gravel surfaced) street and flush with the surface of unimproved areas, unless otherwise directed by the ENGINEER. Hydrants shall stand plumb with the pumper nozzle facing toward the street. The hydrant shall be set to the elevation as shown in the Hydrant Assembly Detail sheet and specified in the "*Water System Materials*" specification section. Where grades are not established, the hydrant shall be set to the elevation established by the ENGINEER.
2. Prior to operating any newly installed hydrant; the CONTRACTOR shall perform the following procedures:
 - a. These procedures shall be initiated prior to filling and flushing the newly installed water main and shall be completed at each hydrant installed on the new section of water main to be tested.
 - b. Carefully remove the hydrant bonnet assembly.
 - c. Remove the complete stem assembly, seat, and valve disk.
 - d. Flush the hydrant with the auxiliary valve until all debris is removed from the main, hydrant lead, and hydrant barrel.
 - e. Close the auxiliary valve, reassemble the hydrant and pump down the water level to the bottom of the hydrant barrel.
 - f. After each use, the hydrant must be pumped down to the bottom of the barrel.

G. Polyethylene Encasement:

1. When required by the information as shown on the project drawings and/or in the proposal, the water main pipe and appurtenances shall be encased in nominal 8 mil-thick polyethylene. The polyethylene encasement shall be black in color and shall be furnished, stored and installed per the current requirements of AWWA C105-10 Standard. Installation shall be by AWWA C105-10, 4.4.3.1 Method A unless otherwise directed by the ENGINEER.

H. Pipe Bedding:

1. When required by the information as shown on the project drawings and in the Proposal and where existing foundation materials are unsuitable to carry the pipe or structure to be placed on it, the existing foundation material shall be excavated and the pipe shall be bedded with sand, crushed pit run gravel or other granular material approved by the ENGINEER (material passing the MDOT Specification for granular

- material class II or class III will be accepted).
2. Bedding material shall be placed in six-inch (6") layers and tamped into place until it is up to the midpoint of the pipe after compaction.
 3. The cost of furnishing, hauling, placing and tamping of the pipe bedding shall be included by the CONTRACTOR in the unit price per lineal foot of the water main specified in the Proposal.
- I. Backfill:
1. Materials:
 - a. Shall be as required per the trench detail as noted on the project drawings which are to be used in the specified locations.
 2. Compaction:
 - a. Backfill in trenches shall be compacted by mechanical equipment.
 - b. All backfill shall be compacted to 95% of maximum unit weight when under roadways or within the 1:1 influence area of roadways, shoulders or curbs. Otherwise compaction shall be to 85% of maximum unit weight. Maximum unit weight shall be as determined by the modified Proctor method.
- J. Reaction Restraint:
1. Thrust restraint shall be provided through the use of a restrained joint system such as locked joint pipe, ductile iron joint retainer glands, joint anchoring systems, or rod fitting types. Concrete thrust blocks will not be permitted.
 - a. Additional restraint may be required at pipe joints beyond fitting locations. Where water pressure exerts a disjoining force, at all pipe deflections over 20 degrees, and all tees and dead ends, joints shall be restrained in a manner approved by the ENGINEER. The restraint shall be applied to joints in each direction from the deflection and adequate distance to resist the axial thrust of the test pressure as required per the current edition of **Thrust Restraint Design for Ductile Iron Pipe**, as published by the Ductile Iron Pipe Research Association. At a minimum, the restraint shall be applied in accordance with the Pipe Restraint Schedule WM-570 Standard Detail sheet. Fire hydrants shall be restrained from the main line to the hydrant. Details of all proposed joint restraint shall be submitted to the ENGINEER for review. All pipe and fitting restrained joints shall be rated for a minimum of 250 psi unless otherwise noted. The use of polyethylene pipe encasement shall be taken into account when calculating the minimum required length of restrained pipe.
- #### 1.04 REMOVAL OF WATER AND DEWATERING
- A. General:
1. The inclusion of a bid item and estimated quantity for dewatering in the bid schedule indicates that dewatering is probable. However, the exclusion of this item from the Proposal does not preclude the possibility that dewatering will be encountered, it merely indicates that it is not anticipated.
- B. CONTRACTOR Provisions:
1. The CONTRACTOR shall remove and dispose of all water entering the

trenches and shall keep the trenches water-free until the water mains, and other appurtenances are in place and sealed against the entrance of water. In no case shall water, earth, or any foreign materials be allowed to enter the water main.

2. The dewatering operation shall be conducted utilizing pumping equipment that does not create excessive or unnecessary noise levels. All internal-combustion engines shall be equipped with mufflers that effectively reduce noise levels for use in residential neighborhoods. The City of Sault Ste. Marie Ordinances shall be used to regulate unnecessary noise levels.

C. Dewatering:

1. Design:

- a. The design of the system used shall be the responsibility of the CONTRACTOR. The water tables may fluctuate seasonally and dewatering may be required at certain times of the year. The CONTRACTOR must determine the need for dewatering. Dewatering shall be included in the major item of water main construction of the various sizes of pipe as indicated in the Proposal.
- b. The design of the system shall be such that the dewatering operation will not damage adjacent structures due to lowering of the water table below those structures.

2. Related work:

- a. The dewatering work shall be coordinated with the scheduling of other trades by the CONTRACTOR to ensure adequate protection of personnel and materials and in a manner that will not unduly delay the project.

3. Compliance with regulations:

- a. Comply with the Soil Erosion and Sedimentation Control Act, the Dewatering Well Act, and other lawfully required state and local codes, that are standard requirements for dewatering work.

4. Materials:

- a. Utilize all materials as necessary to perform the dewatering work including wells, pumps, screens, gravel packs, observation wells, piping, power source and standby gas or diesel equipment.

5. Performance requirements:

- a. The dewatering system shall be of sufficient capacity to lower the water table below the bottom of the excavation.
- b. The minimum depth of wells, if used, shall be sufficient to maintain the water table at the bottom of the excavation unless an impervious material is encountered.
- c. The lowered water table shall be maintained continuously (day and night) until the structure to be built or the installation of utilities is completed to such an extent that no damage from hydrostatic pressure, floatation, or other causes will result.
- d. CONTRACTOR'S personnel shall monitor the dewatering system at

frequent intervals so that an equipment failure will not cause an extremely costly delay to the CONTRACTOR. Standby equipment shall be available in case of an equipment or power failure.

1.10 TESTING

A. CONTRACTOR Provisions:

1. CONTRACTOR shall clean, pretest, and arrange with the ENGINEER for actual inspection and test. The CONTRACTOR shall provide all equipment and assistance necessary for carrying out the required testing.
2. Before testing, the CONTRACTOR shall make sure that all turns, intersections, ends and reductions have been restrained by proper thrust restraint including permanent or temporary restraint systems. The proper restraint of the system being tested is strictly the responsibility of the CONTRACTOR.
3. The CONTRACTOR shall provide a plan, to be reviewed and approved by the ENGINEER prior to commencing the hydrostatic testing, leakage testing and the continuity testing.
4. The CONTRACTOR shall furnish the proper appliances, equipment, facilities and manpower to conduct all required testing.

B. Testing Procedure:

1. Hydrostatic testing:
 - a. Follow AWWA C600-10, Section 5.2.
 - b. Test duration: minimum two (2) hour duration or until the complete section of line under pressure can be inspected.
 - c. Pressure: Not less than a hydrostatic pressure of 150 psi.
 - d. Test in sections if necessary to ensure a maximum of 25 psi differential pressure from lowest to highest point in that section.
 - e. Fill system slowly with water, allow air to expel through air release points in the system.
 - f. Before applying the specified test pressure, air shall be expelled completely from the section of piping under test. If permanent air vents are not located at all high points, corporation cocks shall be installed at these points to expel the air as the line is filled with water. After the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and the pipe plugged or left in place as directed by the ENGINEER.
 - g. The test pressure shall not vary by more than ± 5 psi for the duration of the test.
 - h. CONTRACTOR shall repair defects and repeat test until acceptable.
2. Leakage Testing
 - a. Make-up water: from measurable source; metered CITY potable supply. The CONTRACTOR shall be responsible for all costs associated with the supply of water for all testing, including hydrant rental and water usage (unless other arrangements are agreed to by the CITY prior to the use of water.) The CITY water rates and hydrant rental rates applicable at the time of water usage shall be used to compute the total expense to the CONTRACTOR.

- b. Hydrostatic or leakage testing shall not be allowed against a closed valve connected to a potable system. A physical air gap must be left at each end of the new water main to be tested. For very special circumstances only, the ENGINEER may allow testing against a closed valve connected to a potable system but only when disinfection, flushing and bacteriological testing is performed prior to testing. When hydrants are in the test section, the test shall be made against the main valve in the hydrant.
 - c. Leakage defined: The quantity of water that must be supplied into the newly laid pipe or any valved section thereof to maintain pressure within 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time.
 - d. Allowable leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = (SDP^{1/2}) \div 148,000 (+ 0.0078 \text{ gal/hr/in of nominal valve size for each closed metal seated valve tested against, if so approved}).$$

L = allowable leakage, in gallons per hour.
 S = Length of pipe tested in feet.
 D = Pipe diameter in inches, nominal.
 P = Average test pressure during the leakage test, in psi (gauge).
 - e. Repair leaks and repeat tests until acceptable results are achieved.
 - f. All visible leaks are to be repaired, regardless of the amount of leakage.
3. Electrical conductivity:
- a. Prior to electrical testing, all gate valves shall be opened and the system shall be pressurized at normal operating pressure.
 - b. The pipe shall be tested in sections between appurtenances (gate valves and hydrants).
 - c. Conductivity of each hydrant shall be verified.
 - d. Amperage: a current of 400 amperes measured continuously with a ammeter graduated in 10 ampere intervals.
 - e. Time: current applied for a period of 5 minutes through each section.
 - f. Fluctuations: steady current during the 5 minute test period and current fluctuations shall not exceed 50 amperes.
 - g. Failure: Fluctuations in excess of 50 amperes, interruption of current flow, maximum current capacity below 400 amperes, arcing (large fluctuations in current flow) shall be cause for rejection of the section under test.
 - h. Locate the cause for failure, repair and retest. Repeat the procedure until each section is capable of passing the minimum current as required herein.

1.11 FLUSHING AND DISINFECTION

A. CONTRACTOR Provisions:

1. The CONTRACTOR shall flush the entire system after the pressure testing, prior to chlorination and also after chlorination.
 2. The CONTRACTOR shall provide a plan for the flushing of the mains, disinfecting procedures and final flushing/solution disposal to the ENGINEER in advance of the chlorination procedure. The ENGINEER shall approve the plan before any operation commences.
- B. Flushing:
1. Flush at maximum intervals of one quarter mile of main line.
 2. Flushing shall result in a minimum velocity of 3.0 feet per second at the pipe wall.
 3. Water shall be supplied only through the CITY'S metered supply. The CONTRACTOR shall be responsible for all costs associated with the supply of water for testing, including hydrant rental and water usage (unless other arrangements are agreed to by the CITY prior to the use of water.) The CITY water rates and hydrant rental rates applicable at the time of water usage shall be used to compute the total expense to the CONTRACTOR.
 4. Duration: Until residual chlorine equals that of adjoining system.
 5. Schedule for flushing shall be at the ENGINEER'S approval.
 6. Use of a pig is strongly recommended and will reduce water usage by CONTRACTOR.
- C. Disinfection:
1. Follow the procedures in AWWA C651-14. Continuous feed method, Section 4.4.
 2. Use liquid chlorine.
 3. Inject the chlorine solution at a constant rate utilizing the continuous-feed method.
 4. Chlorine concentration shall be produced to 25mg/L.
 5. Retention time is 24 hours. After this period the main shall have a free chlorine residual of not less than 10mg/L.
 6. Reduce chlorine level in water main to 2 ppm before flushing main.
 7. Dispose of chlorinated water in an appropriate manner that will not cause erosion or harm to plant or animals.
 8. Flushing water shall be discharged to storm water systems, drains, ditches or creeks with definable outlets only.
 9. CONTRACTOR shall present his/her plan for discharging the chlorinated flushing water in advance of the chlorination procedure for approval.
- D. Bacteriological Testing
1. Bacteriological tests: CONTRACTOR will obtain approved sampling containers from the City of Sault Ste. Marie Water Treatment Plant and will provide equipment and personnel to properly obtain the samples from the section of water main to be tested. All samples are to be taken in the presence of the CITY or the CITY'S Representative. The CONTRACTOR shall be responsible for properly marking and identifying the samples and shall present the samples to the CITY or CITY'S Representative. The CITY, or the CITY'S Representative, will deliver the

CONTRACTOR'S samples, and CITY will analyze samples exclusively at the City of Sault Ste. Marie Water Treatment Plant Laboratory. The CONTRACTOR shall be responsible for payment of the City of Sault Ste. Marie sampling analysis fees currently in effect at the time of sampling.

2. Bacteriological testing procedure:

- a. In accordance with the requirements of the EGLE, and AWWA C651-14, OPTION B.
- b. Before approving main for release, let sit for a minimum of 16 hr without any water use. Then collect two sets of samples a minimum of 15 min apart while the sample taps are left running. Both sets must pass for the main to be approved for release.
- b. For new main samples shall be collected every 1200 feet.
- c. Additionally, a standard Heterotrophic Plate Count (HPC) shall be ran in conjunction with the Coliform test.
- d. For any section of line not meeting the EGLE, AWWA C651-14 requirements on both tests, the entire procedure of chlorination shall be repeated until safe samples are obtained.
- e. If it is necessary for the CONTRACTOR to install temporary corporations in the main line to meet the testing requirements, any costs associated with such temporary installations shall be the sole responsibility of the CONTRACTOR and shall be included in the price of water main construction.

1.12 RECORDS

- A. The CONTRACTOR shall maintain a plan set during the project showing locations of all facilities installed under this contract. This record shall include, but not be limited to, locations of all valves, hydrants, ductile iron fittings, corporation stops, curb stops, tapped couplings and valve manholes. The location of each of these items shall be referenced to three permanent structures or objects. Quantities and locations of facilities installed for individual water services shall be recorded.
- B. A site plan showing stationing along water lines shall be prepared showing locations of facilities as actually installed. This plan shall be submitted to the ENGINEER for approval.
- C. At a minimum, the CONTRACTOR shall deliver completed as-built information to the ENGINEER within thirty (30) days of the end of utility construction activity or within thirty (30) days of a seasonal shutdown for projects that extend over more than one season.

1.13 CONNECTIONS TO EXISTING DISTRIBUTION SYSTEM

- A. Connections to existing distribution systems, if applicable, shall be made by a method subject to the approval of the ENGINEER and/or as shown on the drawings. Connections to an existing water main shall not be commenced until arrangements with the CITY (City of Sault Ste. Marie Water Department) have been made regarding necessary water system interruptions.
- B. The CONTRACTOR is required to notify all affected water users a minimum of 24 hours (or as otherwise indicated in the contract proposal) in advance of any proposed non-emergency water shut-off. The City of Sault Ste. Marie Water

Department shall also be simultaneously notified with the advance notification.

1. The City of Sault Ste. Marie Water Department will verify that the CONTRACTOR has performed the required notification by contacting (via telephone) a representative number of water users at random in the affected water shut-off area. The random check will be performed by making phone calls the morning of the scheduled shut-off day.
 2. When the random verification indicates that the required notification has been adequately performed by the CONTRACTOR, the City of Sault Ste. Marie Water Department will authorize the proposed water shut-off to proceed as scheduled.
 3. If any of the water users contacted by the City Water Department indicate that they have not been notified, the City Water Department shall inform the CONTRACTOR that the water main cannot be shut-off and to restart their notification procedure as outlined in 1.13, B.
- C. All live taps 12" and smaller will be made by the City of Sault Ste. Marie Water Department crews. The CONTRACTOR shall provide service lateral taps into new water mains. For live taps, the CONTRACTOR shall be responsible for assembling the tapping sleeve and installing continuity straps prior to the tap. For 12" and smaller taps, the City of Sault Ste. Marie Water Department will perform air testing of the valve and sleeve prior to the tap. For any taps over 12", the CONTRACTOR shall be responsible for all of the tapping operation including the proper air testing of the valve and sleeve prior to the tap. All testing and assembly will be included in the cost of the tapping sleeve and valve. In the event that the City Water Department crew performs the tap, the tap fee will be waived. When the CONTRACTOR performs the tap, the required CITY inspection fee will be waived.
- D. Continuity must be maintained from the existing water main being tapped, to the tapping sleeve, valve and new water main. All continuity bonding straps or other ENGINEER approved continuity devices must be capable of maintaining the amperage required as stated under Part 1, Section 1.10, B., 3.
- E. Work shall not be started until all the materials, equipment, and labor have been assembled on the site. When work is started on a connection, it shall proceed continuously without interruption, and as rapidly as possible until completed. If the connection to the existing system involves turning off the water, the CONTRACTOR shall be responsible for notifying the residents affected by the shutoff. No shutoff of mains will be permitted overnight, over weekends, or on Federal holidays without the express prior approval of the CITY.
- 1.14 UNDERGROUND SERVICE LINE, VALVES AND FITTINGS**
- A. Installation, materials and testing shall conform to AWWA Standard C800-14 with modifications as contained within this specification section.
 - B. Service lines shall be normal pressure, copper, Type K of the size (diameter) and installation method as noted on the plans or in the Proposal.
 - C. All valves and fittings installed under this specification shall have end connections which are compression style, no soldered connections shall be allowed.
 - D. Service pipe, corporation stops, pack joint elbows, curb stops and boxes, shall conform to the material specifications as contained in the current City of Sault

Ste. Marie "*Water System Materials*" (WSM) Standard Specification.

1.15 FROST PROTECTION

- A. In those instances where a water main or water service line crosses a road, driveway or traveled path and for whatever reason the installed depth is less than the required 7' depth of bury; where a water main or water service line is less than the required 6' depth of bury in areas outside of roadways, polystyrene insulation shall be placed over the main or service line for the entire width of the crossing or deficient depth, and extended a minimum of five (5) feet on each side of the crossing or deficient depth. The insulation shall be a minimum width of four (4) feet centered over the main or two (2) feet for the service line, and a minimum thickness of three (3) inches. The insulation shall be placed so there is no more than six (6) inches of backfill cover between the top of the pipe and the insulation.
- B. The material shall be rigid extruded polystyrene insulation board and shall be subject to the approval of the ENGINEER.
- C. Installation method:
 - 1. Construction operations shall insure a straight alignment of polystyrene at all times.
 - 2. Backfill of the water main or service line shall be performed in the manner as specified for the particular trench detail proceeding to the top of the pipe where the backfill shall be compacted and leveled into a flattened area ready to accept the insulation board.
 - 3. If two or more layers of insulation are used, the placement of each layer of material shall be staggered to cover the joints of the preceding layer, and an appropriate adhesive suitable to the ENGINEER and compatible with the insulation material shall be used to fasten each layer to the layer immediately below.
 - 4. Construction equipment shall not operate directly on the insulation.
 - 5. The first lift of backfill material placed on the insulation shall be a minimum of eight (8) inches thick and it shall be end dumped and spread over the insulation by equipment approved by the ENGINEER.
 - 6. Compaction of backfill material on the insulation layer shall be by equipment approved by the ENGINEER.
 - 7. Conventional construction equipment shall be allowed to operate on the compacted lift and normal construction practices shall be followed after the first lift of backfill material on the insulation has been placed and compacted.

PART 2 - PAYMENT

2.01 METHOD OF MEASUREMENT AND BASIS FOR PAYMENT

- A. Measurements:
 - 1. All measurements and payments shall be based on completed and accepted work performed in strict accordance with the drawings and specifications.
- B. Payment:

1. The respective prices and payment shall constitute full compensation for all work complete. No separate payment shall be made for excavation, trenching and backfilling or for other items of work covered under this section of the specifications and all such costs pertinent to these items shall be included in the applicable unit prices.

2.02 WATER MAIN

- A. Shall be measured in place along the center line of the pipe. Payment shall be made at the contract unit price per lineal foot for water main of the respective size and trench detail specified in the Proposal. The unit price shall include full compensation for furnishing all labor, material, tools, fittings, and equipment required to construct the water main, including excavation, trenching, laying and jointing pipe, polyethylene encasement, connection to existing systems, bedding, backfilling, testing, removal and replacement of fences, culverts, protection and/or replacement or repair of utilities which may be damaged by the work, disposal of excess excavated material and other incidentals which may be required to complete the construction of water mains in accordance to the lines and grades shown on the drawings and/or as directed by the ENGINEER.
- B. Water Main, Cut and Plug, modified. The unit price for Water Main, Cut and Plug includes the cost of cutting the existing water main, providing and placing the required plug, and thrust blocks.

2.03 HYDRANT ASSEMBLY

- A. Shall be measured and paid for per each fire hydrant, 6". The unit price shall include all labor, material and equipment necessary to install the fire hydrant assembly at the location shown on the drawings. Fire hydrant assembly consists of a 6" fire hydrant, 6" auxiliary valve, 6" x 12" GRADELOK offset fitting as manufactured by Assured Flow, 6" ductile iron water main of the length as may be necessary to locate the hydrant as shown on the plans, Megalug retainers, joint accessories and hydrant marker flag for a complete installation between auxiliary valve and fire hydrant.

2.04 WATER SERVICES

- A. Shall be measured and paid at the contract unit price per each water service categorized in the Proposal as Water Serv, Modified or to be measured and paid for as shown on the project drawings and Proposal. Unit price shall include all labor, material and equipment necessary to install a water service line as shown on the plans of the respective diameter shown in the Proposal. Each water service shall include a corporation stop, 45 degree pack joint elbow, curb stop and box, and copper water tube, all of the same respective diameter as the pay item of "Water Serv, Modified", or as shown on the plans and/or in the Proposal.
- B. Payment for "*Corporation Stop, __inch*" shall be included in the payment of Water Serv, Modified and shall include the installation of the corporation stop and 45-degree pack joint elbow. Payment for the installation of service pipe as noted above shall be paid for as each (ea.) or by the lineal foot (ft) for the respective pay item as indicated on the plans or in the Proposal. Payment for

the “*Curb Stop and Box, ___inch*” shall be included in the payment of Water Serv, Modified and shall include the installation of the curb stop, box and all fittings and service pipe required for connection to the existing service line (where an existing service is replaced). New curb stops shall be installed to a minimum of 6' depth of bury or as shown on the plans. The proposed curb stop depth is not dependent upon the existing service lateral depth. Payment for the connection to an existing water service lines shall be included with the Water Service, Modified pay item, shall be made on an each (ea.) basis and shall include all necessary labor, material and equipment necessary to complete a fully operational water service connection.

1. The CONTRACTOR shall take care to prevent the admittance of any debris into the service line or related fittings during installation of the water service.
 2. The CONTRACTOR shall include all necessary fittings and service pipe as may be necessary to make up the connection between the new curb stop and the existing service line at existing water service locations.
 3. This work includes the adjustment for any change of depth between the new curb stop and the existing service lateral pipe. Where adequate right-of-way allows, the CONTRACTOR may uncover sufficient existing service lateral (on the property side of the curb stop) for the purpose of utilizing the existing service line to make up the adjustment (in elevation or slight horizontal displacement) to the new curb stop and box.
 4. Upon completion of the curb stop and box installation, curb boxes shall be left in a vertical or near vertical position, with the curb stop installed such that an inserted shutoff rod will properly operate the curb stop from the ground surface.
- C. The length of bored services shall be determined by the measured distance from the insertion point of the boring tool to the exit point of the boring tool. In no case shall the boring distance pay quantity be greater than the distance as measured from a point 6 ft beyond the back of curbs or 6 ft outside of the shoulder points of the roadway for each completed bore, unless approved by the ENGINEER.
- D. Splicing:
1. No splicing of water service piping shall be allowed within roadway areas. Splices may be used at a point a minimum of 10' outside of all curb & gutter areas or roadway shoulder areas when approved by the ENGINEER.
- E. All materials shall meet the requirements of the CITY “*Water System Materials*” (WSM) special provision.

2.05 VALVES

- A. Valves shall be paid for at the contract unit price for each gate valve and valve box of the size specified in the Proposal. Payment for each valve shall be compensation for furnishing material and labor to install the valve, thrust restraint and valve box.

2.06 TAPPING VALVE AND SLEEVE

- A. Tapping valve and sleeve will be paid for at the contract unit price for each tapping valve and sleeve assembly of the size specified. Payment shall be included within the "Water Main, DI ___ inch, Tr, Det C1.01, Modified" pay item. All taps 12" and smaller (other than service lateral taps onto new water main) will be made by the City of Sault Ste. Marie Water Department crews. CONTRACTOR will be responsible for assembling the sleeve and installing continuity straps prior to the tap. For 12" and smaller taps, the City of Sault Ste. Marie Water Department will perform air testing of the valve and sleeve prior to the tap. For any taps over 12", the CONTRACTOR shall be responsible for all of the tapping operation including the proper air testing of the valve and sleeve prior to the tap. All testing and assembly will be incidental to the cost of the tapping valve. The CONTRACTOR shall be responsible for the current costs associated with the City of Sault Ste. Marie Water Department services for tapping the

2.07 TESTING AND DISINFECTION

- A. Testing and disinfection as specified in 1.02, 1.10 and 1.11 respectively shall be considered as included in the installation of water mains and appurtenances and no additional payment shall be made for the proper completion of these items.

2.08 REMOVING HYDRANT

- A. Removing hydrant will be paid for at the contract unit price for each hydrant to be removed, Hydrant, Rem, Modified. The unit price shall include all labor, material and equipment necessary to remove and salvage the hydrant, valve and water main back to the tee and install a plug or cap at that location. All salvaged materials shall be stockpiled on site. The City of Sault Ste. Marie will pick up stockpiled material.

2.09 RELOCATING HYDRANT

- A. Relocating hydrant will be paid for at the contract unit price for each hydrant specified to be relocated for this project. Relocation includes the careful removal of the existing hydrant, removal and salvage of the auxiliary valve with valve box and plugging or capping the fitting at the water main; or, includes removal of the hydrant, plugging or capping the auxiliary valve placed in the off position and removing the valve box (all plugs or caps shall be restrained as required and as specified under 1.03, K.). The plan sheets shall indicate whether the valve is to be removed or is to be left in place.

2.10 ABANDONING WATER MAIN

- A. Water main to be abandoned will be paid for at the contract unit price for each water main, cut and plug or cut and cap of the size specified. Wherever the water main is to be cut and plugged or capped, that shall mean plugging or capping both sides of the cut. On the line that will remain "live", it may be reasonable to remove the existing main back to the nearest fitting and install a plug or cap there when the nearest fitting is within twenty (20) feet of the cut. The cost for such cutting, removal and the required fittings shall be included in the water main, cut and plug or cut and cap pay item.

2.11 DEWATERING

- A. If included as a pay item, Dewatering shall be based on the actual number of lineal feet completed and paid at the unit price in the proposal. If not provided

as a pay item, the work shall be included in the unit price of the placement of the main and associated appurtenances.

2.12 POLYETHYLENE ENCASEMENT

- A Shall paid as part of the contract unit price per lineal foot of water main installed of the specified diameter with nominal 8 mil-thick, black in color, polyethylene pipe encasement in accordance with the AWWA C105 Standards using installation method A.

2.13 POLYSTYRENE INSULATION

- A Polystyrene insulation shall be paid for based on the actual footage installed at the unit price in the Proposal. Payment shall be full compensation for all labor and material including adhesive when installed according to 1.15. Measurement will be lineal footage based on polystyrene two (2) or four (4) feet in width as indicated in the Proposal and three (3), inches in thickness (or as otherwise specified on the drawings). When the ENGINEER directs the CONTRACTOR to install additional layers of polystyrene insulation over the initial layer installed in the same trench, each additional layer shall be paid for at the rate of 75% of the unit price as included in the Proposal for Water Service Insulate or Water Main Insulate.

2.14 CONNECTION TO EXISTING SYSTEMS

- A Payment for connections to an existing distribution system shall be included the contract unit price for watermain and shall include all materials, tools, labor and equipment required to complete this work in accordance with 1.13.

2.15 WATER SERV, CONFLICT, MODIFIED

- A Water serv, conflict, modified refers to relocating only a portion of a water service that is in conflict with a new utility line. The unit price shall include the following: Earth excavation, removing pavement, jacking and boring, providing and installing type K copper tubing, service saddle, corporation stops, service stops and boxes, disinfecting, providing, placing and compacts, backfill, and miscellaneous material, equipment, or operations.

2.16 GATEBOX ADJ AND WATER SHUTOFF, ADJ

The Engineer will measure and pay for Gate Box, Adj, Case __, Modified, Water Shutoff, Adj, Case __, Modified, and __ Gate Box, Adj, Temp, Case 1, Modified, of the case required, as follows:

- Case 1 refers to structures located in hard surfaced travel areas and unit price includes saw cutting, removing and replacing existing pavement, curb, or curb and gutter, and adjusting the water shutoff or gate box to final grade.
- Case 2 refers to structures located outside existing pavement, curb or curb and gutter and unit price includes restoring disturbed vegetated or sidewalk areas.
- Temporary adjustments are for existing valve boxes left in place that require adjustment for temporary access.

2.17 GATEBOX, RECONST. AND WATER SHUTOFF, RECONST

- A The Engineer will measure and the City will pay for Gate Box, Reconst, Case __, Modified and Water Shutoff, Reconst, Case __, Modified of the case required, as

follows:

The unit prices for Gate Box, Reconst, Case __, Modified and Water Shutoff, Reconst, Case __ modified of the case required, include the cost of providing and placing new sleeves, castings, and other materials above the existing valve.

- Case 1 refers to structures located in hard surfaced travel areas and in addition to costs shown in subsection 823.04.B.4.a unit prices include saw cutting, removing and replacing existing pavement, curb, or curb and gutter, and adjusting the water shutoff or gate box to final grade.
- Case 2 refers to structures located outside existing pavement, curb or curb and gutter and in addition to costs shown in subsection 823.04.B.4.a unit prices include restoring disturbed vegetated or sidewalk areas.

- B. Gate Box, Adj, Temp, Case __ modified, or Water Shutoff, Adj, Temp, Case __ modified, will be measured and paid for if temporarily lowering the water shutoff or gate box. The unit prices for these Temp, Case __ pay items include the costs described for Case 1 pay items and the cost of temporary lowering work. The City will pay for replacing damaged gate boxes or water shutoffs, in accordance with subsection 823.03.I as the relevant gate box or water shutoff adjustment pay item. If the Engineer determines gate boxes or water shutoffs were in poor condition, or damaged despite Contractor precautions, the City will pay for the work as the relevant gate box or water shutoff reconstruct pay item.

2.18 WATER MAIN, CUT AND PLUG, MODIFIED

- A. The unit price for Water Main, inch Cut and Plug, modified includes the cost of cutting the existing water main, providing and placing the required plug, and thrust blocks.

B. Pay Item	Pay Unit
_ Fire Hydrant, Modified	Ea
_ Gate Valve and Box, __ inch, Modified	Ea
_ Hydrant, Rem, Modified.....	Ea
_ Water Main, __ inch, Cut and Plug, Modified	Ea
_ Water Main, DI, __ inch, Tr. Det C1.01, Modified.....	Ft
_ Water Serv, Modified	Ea
_ Water Shutoff, Reconst, Case __, Modified.....	Ea
_ Gate Box, Reconst, Case __, Modified.....	Ea
_ Gate Box, Adj, Case __, Modified.....	Ea
_ Water Shutoff, Adj, Case __, Modified.....	Ea
_ Water Main, Conflict, __ inch, Modified.....	Ea
_ Water Serv, Conflict, Modified.....	Ea
_ Gate Box, Adj, Temp, Case __, Modified.....	Ea

END OF SECTION

CITY OF SAULT STE. MARIE
SPECIAL PROVISION
FOR
SANITARY SEWER LATERALS - SPECIAL

City of Sault Ste. Marie

1 of 1

05/2023

- a. Description.** This work shall be done in accordance with applicable sections of the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction*, except as follows.
- b. Construction Methods.** The Open Cut method of installing sanitary sewer laterals shall include all necessary excavation, bedding, pipe installation, trench backfilling and roadway/driveway restoration required to install sanitary sewer laterals by the Open Cut method.
- The work of installing a sanitary sewer lateral where indicated on the drawings shall include all work as necessary to install a property line cap and plug (bulkhead), and cap and plug locator iron.
- Any dewatering required for the installation of sanitary sewer laterals shall be completed in accordance with other provisions as contained in this contract. All costs for dewatering shall be included in the respective lateral pay item involved.
- c. Materials.** The materials to be used for sanitary sewer laterals shall be as indicated on the drawings and specifications.
- d. Measurement and Payment.** The completed work as measured will be paid for at the contract unit price for the following contract pay item(s) and includes all material, equipment, and labor to complete this item. Lateral shall be measured directly over the lateral centerline, from the centerline of the sanitary sewer main at the connection location in a straight line to the property side of the sewer lateral.

PAY ITEM

PAY UNIT

Sanitary Sewer, Serv Lead, PVC, 6 inch, Modified..... FT

CITY OF SAULT STE. MARIE

SPECIAL PROVISION FOR WASTEWATER COLLECTION SYSTEM

City of Sault Ste. Marie

1 OF 11

11/2023

PART 1 – GENERAL

1.01 DESCRIPTION:

A. Work Included:

1. The work covered by this section consists of furnishing all plant, labor, equipment and materials in connection with the construction of wastewater collection systems complete and ready for use. All work shall be accomplished by the latest accepted practice and in agreement with the manufacturer's recommendations.

B. Definitions:

1. Standard manhole unit: Depth of 8 feet or less, lowest invert to top of casting.
2. Additional manhole depth: Depth in excess of 8 feet.

1.02 STANDARDS AND REFERENCES

A. References:

1. MDOT refers to the Michigan Department of Transportation 2020 Standard Specifications for Construction.
2. ASTM refers to the American Society of Testing and Materials.
3. UNI refers to Uni-Bell PVC Pipe Association Standard.
4. MMUTCD refers to the current edition of the Michigan Manual of Uniform Traffic Control Devices.
5. MIOSHA refers to the Michigan Occupational Safety and Health Act.
6. EGLE refers to the Michigan Department of Environmental, Great Lakes and Energy.

B. Product Data:

1. Manufacturer's standard drawings and/or specification sheets: Delete or provide information as applicable. Includes products such as flexible manhole boots, manhole steps, manhole frames and castings, PVC pipe and fittings and other product specific materials.
2. Manufacturer's standard descriptive data: Show:
 - a. Pertinent materials, products or models.
 - b. Dimensions and clearances.
 - c. Gauge and thickness.
 - d. Performance characteristics and capacities.
 - e. Wiring diagrams and controls where applicable.
 - f. Other relative data.
3. Copies: Number CONTRACTOR requires plus 3 for ENGINEER.

C. Presence of Underground Utilities, Drains.

1. Report.

D. Line and Grade Control:

1. Method: Specify.

E. Service Line Witnesses:

1. Wyres, tees and markers: Complete field report of as-built locations.

F. Leakage Tests:

1. Equipment and method: Approval of ENGINEER required.
- G. Deflection Tests:
 1. Equipment and method: Approval of ENGINEER required.
- H. Shop Drawings:
 1. Radius pipe: Required.
 2. Manhole tees: Required.

1.03 JOB CONDITIONS:

- A. Existing Wastewater System:
 1. Maintain operational.
 - a. Bypass: If a bypass of an existing wastewater sewer system is required for this project, provide a detailed plan and schedule for the bypass to the ENGINEER for review and approval prior to initiating any bypass procedure.
- B. Scheduling:
 1. Service line installation: As wastewater pipe laying progresses and within clean-up and testing limitations.
 2. Clean-up: Promptly following wastewater pipe installation kept within maximum of 100 feet behind wastewater pipe laying operation.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Manholes:
 1. Grade rings: ASTM C478.
 2. Precast units: ASTM C478 and ASTM C76 Class III. Modified for "O"-ring gaskets.
 - a. Joints: Rubber "O"-ring.
 - b. Pipe openings: Flexible, watertight rubber boot integrally cast with manhole unit, stainless steel bands.
 - c. Offset cone top section.
 3. Mortar:
 - a. Below grade: MDOT mortar Type R-3 with one part Type 1A cement to 3½ parts 2NS fine aggregate.
 - b. Above grade: MDOT mortar Type R-2 with one part Type M masonry cement to 2 ½ parts 2MS fine aggregate.
 - c. Non-shrinking grout shall be MDOT Type R-1 and shall be a pre-mixed material listed in the current MDOT Prequalified Products list.
 4. Manhole steps:
 - a. Plastic: Reinforced with ½ inch steel rod, dimensioned as cast iron and conforming to requirements of ASTM C-478.
 5. Manhole castings:
 - a. E.J.I.W. (East Jordan Iron Works) 1045 Heavy Duty with Type A w/ Sanitary Sewer cover, or equal.
 - b. Service Rating - All castings specified for traffic service shall be rated heavy duty and shall be designed for AASHTO HS-20 loading conditions. Heavy duty castings shall be proof load tested in accordance with Federal Spec. RR-F-621 and AASHTO M306. Castings shall hold 40,000 lbs. for one minute when proof load tested per these specifications.
 - c. All existing street castings that are removed by the CONTRACTOR shall be salvaged and shall become the property of the CITY. Salvaged castings shall be stockpiled on site and picked up by CITY.

6. Waterproofing: ASTM C478 units and cast-in-place:
 - a. Bituminous: ASTM D449.
 - b. Cement: Masonry filler.
- B. Pipe:
 1. Plastic (PVC):
 - a. 8" to and including 15" dia.: ASTM D 3034-SDR26 for Class A Sewer and ASTM D 3034- SDR26 for Class B Sewer; Type I, Grade 1.
 - b. 4" dia.: ASTM D 3034-SDR 26.
 - c. 6" dia.: ASTM D 3034 SDR26.
 - d. Joints (PVC): ASTM D 3212 for 6" and larger dia. gravity sewer pipe.
 - e. Joints (PVC): Solvent welded for 4" dia. gravity pipe.
 2. Reinforced Concrete (RCP):
 - a. 18" to and including 60" dia. circular pipe: ASTM C76 and of the Class as specified in the Project Plans and or Proposal. All concrete pipe joints shall utilize rubber gaskets for a watertight seal when pipe joints are assembled.

2.02 PRODUCT STORAGE AND HANDLING:

- A. Storage of Materials:
 1. Sanitary Sewer Piping:
 - a. Piping material shall not be stacked higher than four feet (4'). Suitable racks, chairs, and other supports shall be provided to protect preformed pipe mating surfaces from damage. Store bottom tiers off the ground, alternate tiers and chock tier ends.
 2. Gaskets:
 - a. All joint and sealing materials used in the sanitary sewer system shall be protected from sunlight and stored in cool and clean areas ready for installation.
- B. Handling of Materials:
 1. Loading and Unloading:
 - a. Load and unload piping using approved suitable hoists, skids, etc. Piping shall not be dropped, bumped or allowed to impact against itself. Damaged piping shall be rejected by the ENGINEER.
 2. Lifting Devices:
 - a. Lifting devices shall be suited to the work operation and shall protect surfaces from damage.

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Alignment and Grade:
 1. Deviations: The CONTRACTOR shall expose the existing sanitary sewer and structures to which the new work is to be connected. The CONTRACTOR shall notify the ENGINEER where there is a grade discrepancy or an obstruction not shown on the plans. The ENGINEER will verify the vertical and horizontal locations of the existing system and shall inform the CONTRACTOR as to the necessary adjustments required to align the new wastewater sewer work with the existing system. Where required or requested by the ENGINEER, the CONTRACTOR will perform a Utility Location Investigation to determine if any conflicts are evident for the new construction.
 2. The necessary work for Utility Location Investigation includes preliminary surface exploration, protection of other utilities, excavation, backfilling, temporary

roadway surface (where excavation is located in an active roadway area), and other work required. Utility Location Investigation shall be performed only as directed by the ENGINEER.

3. Lines and Grades:

- a. All lines and manhole locations shall be established by the ENGINEER. The CONTRACTOR shall be responsible for the preservation of line stakes when set, and if disturbed, he/she shall pay the actual cost of replacing such stakes. The CONTRACTOR shall keep the ENGINEER informed at least 2 working days in advance of the times and places that stakes will be required, in order that the work may be done without inconvenience to the ENGINEER or delay to the CONTRACTOR.

4. Line and grade control:

- a. Laser aligning equipment shall be used for the laying of wastewater sewers to the specified lines and grades. The CONTRACTOR shall furnish all necessary equipment and personnel required to operate the laser equipment. The equipment shall be operated by competent, trained personnel.
 - (1) Check points: At set-up point, 25 feet, 50 feet, 100 feet and 100 foot points thereafter to the next set-up point.
 - (2) Laser beam projection unit advancement: Reset at each manhole with 400 foot maximum projection length.

5. Clearances:

- a. Sewer mains shall be installed with a separation of ten (10) feet measured horizontally and a separation of 18-inches measured vertically from any water line as minimum isolation distances. A minimum horizontal isolation distance of 200 feet must be maintained between any sewer line and any municipal water supply, and a minimum isolation distance of ten (10) feet measured horizontally must be maintained between a sewer line and a private well.

3.02 INSTALLATION:

A. Laying Pipe:

1. Flexible pipe: Installation of flexible pipe shall conform to ASTM D2321 and except as otherwise specified herein, installation of PVC piping shall be performed in complete accordance with the published installation guide of the pipe manufacturer.
2. Rigid pipe: Installation of rigid pipe shall conform to the current edition of the MDOT 2020 Standard Specifications for Construction.
3. Direction: Pipe shall be laid upstream with the spigot end downstream and the pipe bell at the upstream end.
4. Joints and jointing: Shall be smooth, clean and free of any foreign material, other than sealant recommended by the manufacturer, prior to installation. Apply pipe lubricant only on the spigot, coating the entire circumference of the spigot bevel plus one inch behind the taper. Insert the lubricated spigot into the bell using normal force and insert so that the insertion stripe is flush with the pipe bell. When joining PVC pipe, rotate the pipe approximately $\frac{1}{4}$ to $\frac{1}{2}$ turns while inserting it. Whenever pipe laying is interrupted, the open ends of installed pipe shall be closed to prevent entrance of trench water, mud or any foreign matter.

B. Pipe Bedding:

1. As per MDOT Standard Plans, Special Provisions of the contract, or Details as noted in the Project Plans.
2. In general for pipe bedding:
 - a. MDOT Class II granular material shall be placed and compacted in layers not more than 10 inches or $\frac{1}{2}$ of the pipe diameter, whichever is least, in

thickness on opposite sides of the pipe at the same time to a minimum of 12 inches above the pipe. Each layer of bedding material shall be compacted to not less than 95 percent of maximum unit weight. MDOT Class II material shall not contain any material greater than 1 ½ inches in diameter within 6 inches of any point of the pipe.

3. Trench backfill:
 - a. The remainder of the trench shall be backfilled in maximum 12 inch layers and each layer compacted to not less than 95 percent of the maximum unit weight of the backfill material. Trench backfill material above the pipe bedding material shall be as specified on the plans. For narrow areas that prevent normal compaction methods to be used and where required by the ENGINEER, the CONTRACTOR shall place flowable fill backfill.
- C. Trench Preparation:
 1. Shall proceed in advance of pipe installation with maximum 100 lineal feet of trench open between excavation and backfilling operations.
- D. Grading:
 1. All grading in the vicinity of the trench excavation shall be controlled to prevent surface water from flowing into the trenches. During excavation, materials suitable for backfilling shall be piled in an orderly manner a sufficient distance back from the edges of the trenches to avoid overloading or to prevent slides or cave-ins and in accordance with the applicable provisions of the MIOSHA safety regulations. Materials unsuitable for backfilling shall be directed by the ENGINEER to be wasted and disposed of by the CONTRACTOR in accordance with Section 3.05 as contained in this Specification.
- E. Protection of Excavation:
 1. The CONTRACTOR shall provide suitable sheathing, shoring and bracing to protect all excavations as required to provide safe working conditions in conformance with MIOSHA safety regulations. Damage resulting from settlement, slides, cave-ins, water pressure and other causes due to improper shoring, bracing or sheathing shall be repaired by the CONTRACTOR at his/her expense.
 2. The CONTRACTOR shall provide MMUTCD approved, and an adequate number of; signs, barricades, amber warning lights, flagmen and watchmen, and take all necessary precautions for the protection of the work, the workers, and the safety of the public. All barricades, obstructions and open excavations shall be protected at night by amber warning lights, which shall be kept lighted from sunset to sunrise. Suitable signs shall be placed so as to show in advance where construction, barricades or detours exist. For the safety of the public during certain work operations or off hours, any obstruction or open excavation shall be completely and adequately closed off by the use of snow fencing or other ENGINEER approved method. Unless otherwise indicated in the Proposal, safety fencing shall not be paid for separately but shall be included in the cost of the pipe or structure being installed.
 3. The CONTRACTOR shall at all times perform his/her work so as to insure the least possible obstruction to traffic or inconvenience to the general public and the residents of the vicinity of the work, and to insure the protection of persons and property in a manner satisfactory to the ENGINEER. No road or street shall be closed to the public except with the permission of the ENGINEER and with the permission and proper permit from the City of Sault Ste. Marie or the MDOT. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to insure the use of sidewalks, and the proper functioning of all gutters, sewer inlets, drainage ditches and other facilities which shall not be

obstructed, except as approved by the ENGINEER.

F. Manholes:

1. Precast: Fill joint spaces completely and trowel. In areas where the manhole structure will be subject to the hydraulic pressure of outside ground water, all joints shall be sealed with a non-shrink grout as listed in 2.01, A, 3, c, and acceptable to the ENGINEER. All manholes shall be watertight when completed.
2. Flow Channels: The sanitary sewer flow channels shall be formed in the manhole bottom by placing a concrete mix and shaping the channels between inlet(s) and outlet. The flow channels shall be smooth and free from low spots so that there is a continuous gradient across the channel from inlet(s) to outlet. The channel shall be formed so that the remaining benches above the flow channel are higher than 1/2 the maximum pipe diameter and the remaining bench surfaces shall slope towards the flow channel at 1/2" per foot.
3. Casting setting:
 - a. Mortar in place: Set casting on a full bed of cement mortar with cement brick or concrete adjusting ring support, parge inside and outside of masonry areas to form a smooth finish.
 - (1) Existing pavement: Set at 1/4" to 3/8" below finished bituminous or concrete surface.
 - (2) Gravel grade: 4 inches below finished surface.
 - (3) Unpaved areas: Finished grade.
4. Waterproofing: ASTM C478 units and cast-in-place.
 - a. Bituminous: Apply 1 gallon per 100 sq. ft. to outside, free of holidays and open pin holes.
 - b. Cement: Apply masonry filler to parge outside surfaces by brushing on 2 coats, each a minimum of 2 lbs. per sq. yd.
5. Manhole/pipe openings, lifting holes:
 - a. Fill annular spaces with non-shrink mortar or grout.

G. Connections:

1. Existing wastewater system:
 - a. Structures: Relay and repoint loose blocks and bricks.
2. Future wastewater system:
 - a. Plug: Pipe 4 inch through 21 inch with standard disc.
 - b. Bulkhead: Pipe 24 inch and larger with brick and mortar and 1/2 inch plaster outside.
3. Service lines:
 - a. Line and grade:
 - (1) Alignment: Right angles to street line.
 - (2) Grade: Uniform rate, from connection or riser to property line.
 - (3) Minimum grade: 1/8 inch per foot for 6" dia. pipe; 1/4 inch per foot for 4" dia. pipe.
 - b. Connection fitting:
 - (1) Location: By ENGINEER.
 - (2) 45 degree or 60 degree wye fittings: All pipe.
 - (3) Taps to PVC pipe where fittings are not provided: Install a gasketed saddle wye which utilizes all stainless steel clamps. Holes for saddle connections shall be made with mechanical hole cutters, or by a keyhole saw or saber saw. Holes for saddles shall be laid out with a template and shall be deburred and beveled to provide a smooth hole shaped to conform to the fittings.
 - c. Main risers: Where cover exceeds 12 feet at connection.

- d. Joint type and material: Same as wastewater pipe.
- e. Plugging: Standard manufactured plugs or caps securely blocked.
- f. Markers:
 - (1) Material: Pressure treated wood 2x2 placed vertically with attached 12 inch 2x6 wood anchor laid flat at the end of service line. Four wraps of #9 galv. iron wire shall be placed onto 2x2, 6 inches below grade.
 - (2) Length: Lateral end to 4 inches below grade in lawn or paved areas and 6 inches above grade elsewhere.
- g. Witnesses:
 - (1) Wyes: Measurement to nearest downstream manhole.
 - (2) Markers: 3 measurements to permanent surface features.

3.03 REMOVAL OF WATER AND DEWATERING

A. GENERAL:

- 1. The inclusion of a bid item and estimated quantity for dewatering in the bid schedule indicates that dewatering is probable. However, the exclusion of this item from the Proposal does not preclude the possibility that dewatering will be encountered, it merely indicates that it is not anticipated.

B. CONTRACTOR Provisions:

- 1. The CONTRACTOR shall remove and dispose of all water entering the trenches and shall keep the trenches water free until the sewer mains, manholes, and other appurtenances are in place and sealed against the entrance of water. In no case shall water, earth, or any foreign materials be allowed to enter the sewer main.
- 2. The dewatering operation shall be conducted utilizing pumping equipment that does not create excessive or unnecessary noise levels. All internal-combustion engines shall be equipped with mufflers that effectively reduce noise levels for use in residential neighborhoods. The City of Sault Ste. Marie Ordinances shall be used to regulate unnecessary noise levels.

C. Dewatering:

- 1. Design:
 - a. The design of the system used shall be the responsibility of the CONTRACTOR. The water tables may fluctuate seasonally and dewatering may be required at certain times of the year. The CONTRACTOR must determine the need for dewatering. Dewatering shall be included in the major item of storm sewer construction of the various sizes of pipe as indicated in the Proposal.
 - b. The design of the system shall be one that does not damage adjacent structures due to lowering of the water table below those structures.
- 2. Related work:
 - a. The dewatering work shall be coordinated with the scheduling of other trades by the CONTRACTOR to ensure adequate protection of personnel and materials and in a manner that will not unduly delay the project.
- 3. Compliance with regulations:
 - a. Comply with the Soil Erosion and Sedimentation Control Act, the Dewatering Well Act, and other lawfully required state and local codes that are standard requirements for dewatering work.
- 4. Materials:
 - a. Utilize all materials as necessary to perform the dewatering work including wells, pumps, screens, gravel packs, observation wells, piping, power source and standby gas or diesel equipment.

5. Performance requirements:
 - a. The dewatering system shall be of sufficient capacity to lower the water table below the bottom of the excavation.
 - b. The minimum depth of wells, if used, shall be sufficient to maintain the water table at the bottom of the excavation unless an impervious material is encountered.
 - c. The lowered water table shall be maintained continuously (day and night) until the structure to be built or the installation of utilities is completed to such an extent that no damage from hydrostatic pressure, floatation or other causes will result.
 - d. CONTRACTOR'S personnel shall monitor the dewatering system at frequent intervals so that an equipment failure will not cause an extremely costly delay to the CONTRACTOR. Standby equipment shall be available in case of an equipment or power failure.
6. Determination of need for Dewatering:
 - a. If continuous pumping with well points is required to maintain a satisfactory trench, and the CONTRACTOR is so directed by the ENGINEER, this work shall be considered as dewatering. Removal of water from the trenches without the use of well points shall not be considered as dewatering. The system of well points for dewatering shall be set separately for each trench being dewatered. If unanticipated water is encountered requiring continuous pumping with a system of well points, dewatering shall be based on the actual number of lineal feet of trench dewatered, and paid for at the contract price or price negotiated between the CONTRACTOR and the ENGINEER. Payment shall be only for the dewatering that is measured and verified by the ENGINEER at the time this work is accomplished.

3.04 FIELD QUALITY CONTROL:

A. Testing and Inspection:

1. General:
 - a. Supervision: By ENGINEER.
 - b. Completion: Before connecting to active system except the leakage tests shall promptly follow installation of wastewater pipe including services kept within maximum 1000 feet behind wastewater pipe laying operation. The required deflection testing may be performed after connection to the active sewer system upon the approval of the ENGINEER.
 - c. Notification: Clean, pretest and arrange with ENGINEER for inspection and test.
 - d. Equipment and assistance: Provided by the CONTRACTOR.
2. Line and grade: Allowable drift between structures from proposed alignment.
 - a. Line:
 - (1) Thru 36 inch dia.: 0.20 foot
 - (2) Over 36 inch dia.: 0.40 foot
 - b. Grade:
 - (1) Thru 36 inch dia.: 0.02 foot
 - (2) Over 36 inch dia.: 0.05 foot
 - c. Plastic pipe deformation:
 - (1) Limited to 5 percent of nominal inside pipe diameter.
3. Leakage:
 - a. General:
 - (1) Acceptable leakage after repairing visible leaks (air or water):
 - (a) Water: Less than 50 gallons per inch of internal pipe diameter

- per mile of pipe per 24 hours (50 gal/in. dia./mile/day), including manholes.
- (b) Air: Holding time not less than that listed in the tables per ASTM F1417 for PVC pipe and ASTM C924 for concrete pipe.
 - (2) The preferred and recommended test for leakage is the Low-Pressure Air Test and may be used in lieu of the water type infiltration or exfiltration tests.
 - (3) Correction: Repair defects and repeat test until acceptable.
- b. Infiltration test (water):
- (1) Conditions: Minimum groundwater depth 2 feet above high point of system under test.
 - (2) Procedure:
 - (a) "V" notch weir: Install and maintain at low end of system under test.
 - (b) Leakage: Quantity of water measured by "V" notch weir.
- c. Exfiltration test (water):
- (1) Conditions: Determine groundwater elevation.
 - (2) Procedure:
 - (a) Filling system: Minimum 2 feet above high point of system or 2 feet above groundwater, whichever is higher.
 - (b) Leakage: Quantity of water required to maintain constant level.
- d. Exfiltration (low-pressure air test):
- (1) Condition: Determine groundwater elevation per procedures described in UNI-B-6 and adjust test pressure accordingly.
 - (2) Procedures:
 - (a) Follow the procedures as specified in ASTM Specification F1417 and UNI-B-6 for PVC pipe.
 - (b) Follow the procedures as specified in ASTM Specification C924 for concrete pipe.
 - (c) Leakage (air loss): The time required for the air pressure to decrease 1.0 psig. during the test for PVC wastewater sewers shall not be less than the time shown in the table listed in Table 1 of the ASTM Specification F1417.
 - (d) For more efficient testing of long test sections and/or sections of larger diameter pipes, a timed pressure drop of 0.5 psig may be used in lieu of the 1.0 psig timed pressure drop, upon the approval of the ENGINEER.
 - (e) The test shall be conducted as soon as possible after final backfilling has been completed for the section of sewer to be tested and after all connections and service laterals have been plugged and braced adequately to withstand the test pressure.
 - (f) For any test section which records a time less than the required time for the pressure drop of 1.0 psig as noted in (c) above for PVC pipe or as specified in ASTM C924 for concrete pipe; inspect, evaluate, and retest the line to determine the cause of excessive air loss.
- e. Deflection test:
- (1) Time limit and maximum deflection: Plastic pipe shall be tested for deflection, but no sooner than thirty (30) days following the backfilling

of the pipe. The section of sewer to be tested may be connected to the active sewer system prior to the prescribed thirty days upon the approval of the ENGINEER. Maximum allowable deflection (reduction in vertical inside

diameter) shall be 5 percent of the nominal inside diameter of the pipe used on the project.

- (2) Excess deflection: Any location with excess deflection shall be excavated and repaired by re-bedding and/or replacement of the pipe.
- (3) Deflection testing devices: Optional devices for testing include a deflectometer, calibrated television or photography, or a properly sized "Go, No Go" 9 point mandrel or sewer ball, specifically sized for the inside diameter of the pipe section to be tested.

f. Test failure:

- (1) If a sewer section fails to pass any of the previously described tests, the CONTRACTOR shall determine the location of the leaks or pipe deficiency, repair them and retest the sewer. The tests shall be repeated until satisfactory results are obtained and verified by the ENGINEER.

3.10 ADJUST AND CLEAN:

A. General:

1. Keep pipe and structures clean as work progresses.

PART 4 - PAYMENT

4.01 METHOD OF MEASUREMENT AND BASIS FOR PAYMENT

A. Measurements:

1. All measurements and payments shall be based on completed and accepted work performed in strict accordance with the drawings and specifications.

B. Payment:

1. The respective prices and payment shall constitute full compensation for all work complete. No separate payment shall be made for excavation, trenching and backfilling or for other items or work covered under this section of the specifications and all such costs pertinent to these items shall be included in the applicable unit prices. Refer to the contract Proposal for pay items included under a specific project.

C. Reference:

1. The current MDOT Standard Specification for Construction and this specification section shall be the reference for establishing the method of measurement and the basis of payment for the respective pay items listed in the Proposal. Contract Special Provisions shall also be used as reference for particular items of construction.

- D. Measurement and Payment. The completed work, as described, will be measured, and paid for at the contract unit price in accordance with sections 401 and 825 of the Standard Specifications for Construction except as follows:

<u>Pay Item</u>	<u>Pay Unit</u>
___ Sanitary Sewer, PVC, ___ inch, Tr Det C1.01, Modified.....	Ft
___ Sanitary Structure, ___ inch dia, Modified.....	Ea
___ Sanitary Structure, Add Depth of ___ inch dia, 8 foot to 15 foot, Modified.....	Ft
___ Sanitary Structure, Add Depth of ___ inch dia, more than 15 foot, Modified.....	Ft
___ Sanitary Structure Cover, Type Q, Modified.....	Ea
___ Sanitary Structure, Rem, Modified.....	Ea
___ Sanitary Structure, Tap, ___ inch, Modified.....	Ea
___ Sanitary Manhole Internal Drop Connection, Modified.....	Ft
___ Sewer, Rem, Less Than 24 inch, Modified.....	Ft

___ **Sanitary Sewer, PVC, ___ inch, Tr Det C1.01, Modified** will be measured along the centerline of the pipe with no deductions for fittings

___ **Sanitary Structure, ___ inch dia, Modified** of the diameter specified, will be measured as Drainage Structure in accordance with section 825 of the Standard Specifications for Construction and paid for at the contract unit price for the above pay item.

___ **Sanitary Structure, Add Depth of ___ inch dia, 8 foot to 15 foot, Modified** will be measured in place per foot along the centerline of the pipe.

___ **Sanitary Structure, Add Depth of ___ inch dia, more than 15 foot, Modified** will be measured in place per foot along the centerline of the pipe.

___ **Sanitary Structure Cover, Type Q, Modified** of the type specified will be measured as Sanitary Structure cover in accordance with section 825 of the standard specifications for construction and paid for at the contract unit price for the pay item.

___ **Sanitary Structure, Rem, Modified** will be measured as Sanitary Structure removal and paid for at the contract unit price for the pay item.

___ **Sanitary Structure, Tap, ___ inch, Modified** of the depth specified will be measured as Sanitary Structure Tap and paid for at the contract unit price for the pay item.

___ **Sanitary Manhole Internal Drop Connection, Modified** will be measured in place per foot from the invert of the top of the drop connection to the invert of the bottom of the drop connection.

___ **Sewer, Rem, Less Than 24 inch, Modified** will be measured in accordance with Section 203 of the Standard Specification for Construction and paid for at the contract unit price for the pay item.

END OF SECTION

CITY OF SAULT STE. MARIE

SPECIAL PROVISION FOR WATER SYSTEM MATERIALS

City of Sault Ste. Marie

1 of 6

12/2022

PART 1 - DUCTILE IRON WATER MAIN

1.01 DUCTILE IRON PIPE (D.I.P.)

A. Specifications:

1. Ductile Iron Pipe shall meet the requirements of AWWA (American Water Works Association) C151 (ANSI A21.51) of latest revisions thereof and shall be designed for a minimum of 150 psi working pressure with push-on rubber gasket type joints. Minimum wall thickness shall be as shown on the schedule contained herein for the "**Special Thickness Class 52**" rubber gaskets shall conform to AWWA C111 (ANSI A21.11).
 - a. Direct tap up to and including 1" saddles for 1 ½" to 2".
 - b. Ductile iron pipe wall thickness and related tap sizes.

<u>PIPE SIZE</u>	<u>MINIMUM CLASS/ NOMINAL WALL THICKNESS (IN.)</u>	<u>MAXIMUM TAP SIZE FOR CORP.*</u>	<u>MAXIMUM SIZE**</u>
3"	52/0.28	3/4"	1"
4"	52/0.29	3/4"	1"
6"	52/0.31	1-1/4"	1-1/2"
8"	52/0.33	1-1/2"	2"
10"	52/0.35	2"	2"
12"	52/0.37	2"	2"
14"	52/0.39	2"	2-1/2"
16"	52/0.40	2"	2-1/2"
18"	52/0.41	2"	3"
20"	52/0.42	2"	3"
24"	52/0.44	2"	3-1/2"

* Denotes tap size per AWWA C800 for a minimum of two (2) full thread engagements for standard corporation stop threads (commonly known as Mueller threads).

** Denotes tap sizes per ANSI/ASME B.1.20.1 for standard taper pipe thread taps for a minimum of two (2) full thread engagements, this type of tap to be used ONLY when approved by the CITY.

B. Coatings:

1. Exterior: Fittings shall be coated on the outside with a bituminous coating of coal tar varnish or asphalt base paint, one mil. thick, at the point of manufacture in accordance with AWWA C151.
2. Interior: Pipe shall be cement lined, standard thickness, in accordance with AWWA C104 (ANSI A21.4).

C. Pipe Certification and Markings:

1. The manufacturer of the pipe shall furnish a certified statement that all pipe furnished has been inspected and tested in accordance with applicable specifications. Pipe will be subject to inspection and approval upon delivery. No cracked, broken, damaged, or defective pipe shall be accepted. Each piece of ductile iron pipe shall have its weight and class designation conspicuously painted or cast on it.
- D. Push-On Joint:
1. Joints shall conform to AWWA C111 (ANSI A21.11). Push-on joints will generally be used on all ground-buried ductile iron pipe. All push-on joints are to be restrained where necessary in accordance with the requirements contained in the separate City of Sault Ste. Marie Standard Specifications for Installation, Testing and Disinfecting Ductile Iron Water Mains and Appurtenances.
 2. Standard plain rubber gaskets meeting AWWA C111 (ANSI A21.11) specifications shall be used for all general applications (included in the Unit Price for pipe). Where special pipeline conditions require resistance to chemical ingress, a special fluoroelastomer gasket shall be used. Such special gaskets shall be paid for separately when and where required by the ENGINEER.
- E. Joint Lubricant:
1. Sufficient joint lubricant shall be supplied (included in the Unit Price for pipe) for all pipe joints. Lubricant shall be nontoxic, shall not support the growth of bacteria, and shall have no deteriorating effects on the gasket material. It shall not impart taste or odor to water in a pipe that has been flushed in accordance with AWWA C651.

PART 2 - VALVES

2.01 GATE VALVES

- A. Gate valves:
1. Pressure rating: Shall be designed for 200 psig working pressure for valves 16 inch NPS in diameter and smaller.
 2. Buried Gate Valves 4-inch through 16-inch NPS: ANSI/AWWA C515, resilient-seated, ductile iron body, surfaces epoxy coated per AWWA C550 inside and outside, bronze non-rising stem (NRS) with square nut, fully encapsulated ductile iron wedge per ASTM D429, stainless steel bonnet bolts. Gate valves shall have a clear waterway equivalent in area, when fully open - equal to that of the connecting pipe. Valves shall be made to open when turned to the left, or counter-clockwise. Resilient-seated gate valves shall be Clow, E.J.I.W. Flowmaster, or approved equal.
 3. Valve joints: Gate valves shall be furnished with mechanical joints conforming to ANSI/AWWA C110/A21.10, ANSI/AWWA C111/A21.11, or ANSI/AWWA C153/A21.53.
- B. Joint Accessories:
1. Two complete sets of joint accessories shall be furnished with each valve. Complete catalog data shall be furnished for the particular type of valve purchased.
- C. Valve Boxes:
1. Shall be of the two-piece, screw-type adjustable height, 5 1/4 inch shaft with cast iron drop lid cover clearly marked "WATER", valve boxes shall be for nominal six foot (6') depth of bury or seven foot (7'), in conformity with the required water main depth at the location of installation.

2.02 HYDRANT ASSEMBLY

A. Fire Hydrants:

1. Manufacturers: Hydrants shall be as manufactured by East Jordan Iron Works, Model 5BR 250.
2. Construction: Hydrants shall comply with the latest revisions of AWWA C502, shall be of a "dry barrel" configuration and shall be "TRAFFIC" type with a replaceable "breakable" section immediately above the ground line for minimizing repairs due to traffic damage. Hydrants must meet or exceed the requirements of U.L. (Underwriter Laboratories) standard UL 246 and must have the "U.L." insignia cast on the hydrant upper traffic standpipe. Hydrants shall be made to open left with a 1 1/2" point to flat pentagon shape operating nut. Hydrants shall have 5 1/4 inch valve opening with 6 inch M.J. inlet for the required depth of bury as indicated herein or as shown in the Proposal. Hydrants shall have two (2) 2-1/2 inch N.S. (National Standard) hose connections with one (1) pumper connection (5 inch Storz Pumper Nozzle). Caps shall be nut type with chains. Hydrant barrels shall be non-drainable, supplied without drain valves. Fire hydrant barrels below grade (lower standpipe) must be made of ductile iron.

B. Auxiliary Valves:

1. The hydrant assembly shall contain a 6 inch Resilient Wedge Gate Valve, mechanical joint (as specified in 2.01, A.), with the valve separated from the hydrant with a (min. 2'-6", max. 5'-0") section of 6" dia. ductile iron pipe, "**Special Thickness Class 52**" (pipe is not included in the materials when furnishing the hydrant assembly under a materials only contract; otherwise, the pipe between the hydrant and the Gate Valve is to be included in the Pay Item of Hydrant Assembly - see 2.02, C., 2. herein).

C. Cover and exposure:

1. Height of hydrant shall be 30 inches or 36 inches from finish ground line to center of pumper connection as specified in the project plans. Depth of bury shall be seven feet (7'-0") from finish ground line to base of hydrant, in accordance with depth of cover required for adjacent water main, unless specified otherwise on the Plans or Proposal.
2. Any fittings required to correct for vertical or horizontal alignment and to ensure proper depth of bury shall be included in the fire hydrant assembly pay item. **A 6" diameter Gradelok ductile iron offset connector pipe, as manufactured by Assured Flow Sales, Inc., or equivalent shall be included in the fire hydrant assembly.** The Gradelok connector pipe shall be installed in such a manner that the breakaway flange on the fire hydrant has a final installed position in accordance with the Hydrant Assembly Detail sheet. The Gradelok fitting provided shall be sized to provide for adequate vertical offset capabilities to ensure the proper hydrant positioning.

D. Joint Accessories:

1. All associated joint accessories from the tee to the hydrant base shall be restrained mechanical joint and shall be furnished with each hydrant assembly. Complete catalog data shall be furnished for the particular type of hydrant and valve purchased.

E. Coatings:

1. All portions of the hydrant above grade shall be painted with a minimum of one coat of primer and one finished coat of industrial enamel with color to be selected by the ENGINEER (if color is not specified, safety orange shall be applied as the finish coat.) All unpainted surfaces shall have two coats of coal tar pitch varnish.

F. Hydrant Accessories:

1. Each hydrant assembly shall be furnished with one fiberglass hydrant marker flag. Marker flags shall be 4' in height, FH 800 Series, HD Duplex, Red, w/reflective labels as manufactured by Flex Stake, Inc. of Fort Myers, FL. Hydrant marker flags shall be furnished to the CITY for installation by others.

G. Hydrant Assembly Definition:

1. Where noted elsewhere on the project plans or Proposal section, the pay item of Fire Hydrant, Fire Hydrant Assembly or Hydrant Assembly shall be synonymous with Hydrant Assembly as contained and specified herein which shall include all items necessary to furnish and install the specified fire hydrant, auxiliary valve, valve box, Gradelok offset, ductile iron pipe between the fire hydrant and auxiliary valve (where necessary), Megalug retainers, joint accessories and hydrant marker flag for a complete installation between auxiliary valve and fire hydrant.

2.03 BUTTERFLY VALVES

A. Standards:

1. Butterfly valves shall be Class 150B and meet the requirements of AWWA C504.

B. Construction:

1. Butterfly valves shall be short body laying length and be provided with square wrench nut operators. Butterfly valves shall be furnished with mechanical joint ends unless specified otherwise in the Plans or Proposal. Unless otherwise noted, butterfly valves shall be installed in valve manholes with details shown in the project plans.

C. Manufacturer:

1. Butterfly valves shall be as manufactured by Henry Pratt Co., Allis-Chalmers Mfg. Co., or approved equal.

2.04 TAPPING SLEEVE AND VALVE

A. Tapping sleeves:

1. Shall be designated for a water working pressure of min. 150 psig and shall be made of 304 stainless steel, including shell, lugs, nuts, bolts and lifting bar. Tapping sleeves shall be constructed with a 304 stainless steel flange and shall be equivalent to a Romac Industries, Inc. style "SST" tapping sleeve.

B. Tapping valves:

1. Shall be designated per the AWWA resilient-seated gate valve as specified hereinbefore under "Gate Valves" and shall have one end flanged in conformance with AWWA C515, Section 4.4.1.3.4 for bolting to the tapping sleeve, and one end M.J. for bolting to any standard tapping machine.
2. Tapping valves shall be as manufactured by East Jordan Iron Works, or approved equal.

C. Electrical Continuity Across Tapping Sleeve:

1. All tapping sleeves supplied for installation onto existing water mains shall also include continuity bonding strips for application across the sleeve to ensure electrical continuity from the water main which is tapped, to the new tapping valve and water main.
2. Bonding strips supplied shall conform to the requirements as contained in Part 4 of this specification section.

PART 3 - DUCTILE IRON FITTINGS

3.01 FITTINGS

A. Standards:

1. All ductile iron fittings shall meet the requirements of AWWA C110 (ANSI

A21.51) or C153 (ANSI A21.53) specifications.

B. Construction:

1. All fittings shall be mechanical joint, ductile iron, compact fittings (unless specified otherwise on the Proposal). Ductile iron fittings shall be rated for 350 psi, pipe sizes 24-inch diameter and less, and 250 psi for pipe sizes over 24-inch diameter. All fittings (including hydrant assemblies) shall be mechanical joint or shall have end configurations as shown on the Proposal.

C. Joint Restraint:

1. All fittings with mechanical joints shall be supplied with ductile iron retainer glands in lieu of standard for all mechanical joints. Mechanical joints shall be restrained using EBBA Iron, Inc., "Megalug 1100 Series," or Ford Uni-Flange Block Buster 1400 retainers shall be used. Megalugs or Uni-Flange Block Buster 1400 retainers shall also be used to restrain joints for unanticipated deflection points, or where connections require a mechanical joint. No other manufacturers or types of mechanical joint retaining glands will be accepted. Push-on joint pipe shall be restrained with American Lok-Ring, Flex-ring or Fast-Grip Gaskets, U.S. Pipe TR Flex, Field Lok Gasket, or approved equal. All bolts for mechanical joints shall be made of "cor-ten" steel, ASTM A242-81.

PART 4 - ELECTRICAL CONDUCTIVITY

4.01 GENERAL

A. Conductivity Requirements:

1. All ductile iron pipe and fittings furnished shall be provided with electrical conductivity connections as specified below:
 - a. Bonding strips: Shop applied external copper bonding strips conforming to ASTM Specification B152-77 with silicon bronze bolts and nuts shall be supplied for continuity connections. Where field connections are required, copper bonding strips shall be applied by exothermic field welding and shall be coated with coal tar varnish. All connections shall be per manufacturer's recommendations and sized to provide electrical continuity of 400 amperes for an extended period. Continuity testing shall be conducted in accordance with the requirements in the City of Sault Ste. Marie specifications for Installation, Testing and Disinfecting Ductile Iron Water Mains and Appurtenances.

PART 5 - SERVICE PIPE AND MISCELLANEOUS

5.01 SERVICE PIPE AND STOPS

A. Service Pipe:

1. All service pipe shall be seamless, Type K, soft temper copper water tube per ASTM B-88 for underground service. Connection of copper water tube to corporation stop/45 degree elbow assemblies, shall be by compression type joints as manufactured by Ford. No flare fittings, brazed or soldered type joints shall be permitted.

B. Corporation stops:

1. Shall be ball valve type such as Mueller (HB15020), Ford (FB600-3 for 3/4" pipe, FB600-4 for 1" pipe), or equal, with inlet sized per Proposal item, AWWA C800 inlet threads and outlet flare threads (to match 45 degree pack joint elbow). Corporation stops shall be furnished complete, including a 45 degree pack joint elbow, Ford (LA04-33 for 3/4" pipe, LA04-44 for 1" pipe), or equal.

C. Curb stops:

1. Curb stops shall be pack joint by pack joint ball valve type Ford (B44-333 for

3/4" pipe, B44-444 for 1" pipe), or equal, stop with no drain, copper inlet and outlet sized per Proposal item. All pack joint fittings shall have manually tightened grounding straps. All service fittings shall be capable of passing continuity testing.

D. Curb boxes:

1. Shall be Buffalo pattern 2 ½ inch shaft, as in Mueller H-10350 or equal. Shall be supplied with a cast iron top clearly marked "W" and shall be designed for six foot (6') depth of bury and no stationary rod unless otherwise indicated in the project plans or proposal.

E. No Swivel fittings will be allowed to be installed into the system.

F. All materials must be submitted to the City for approval prior to use in the project.

PART 6 - DELIVERY

6.01 HANDLING PIPE AND SPECIAL CASTINGS

A. Unloading:

1. All pipes and special castings shall be unloaded in such a manner and with such care as will effectually avoid the cracking of any pipe or special (fitting, retainer, etc.). Dropping pipe or fittings directly from the truck will not be permitted.

B. Coatings:

1. Care must also be exercised to prevent the abrasion of the pipe coating. Wherever the coating may be found to have been rubbed off, the part shall be recoated as may be required by the nature of the pipe coating.

6.02 DEFECTIVE PIPE AND FITTINGS

A. Acceptance:

1. No pipe or fitting that is recognized to be defective shall be accepted.

END OF SECTION

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIXING PORTLAND CEMENT CONCRETE

CFS:JFS

1 of 1

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:CPM

1 of 2

APPR:TES:JFS:05-19-20

FHWA:APPR:05-27-20

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

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:CPM

1 of 4

APPR:TES:JFS:05-28-20

FHWA:APPR:06-04-20

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

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

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

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

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

Table 1: Quality Index Parameter Specification Limits

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

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

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

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

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

Where:

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

LSL = Lower specification limit (see Table 2).

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

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

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

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

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

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

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

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

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

Where:

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
DISSEMINATION OF PUBLIC RELATIONS INFORMATION

CFS: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
**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.

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONSTRUCTION DOCUMENT MANAGEMENT

COS:RJC

1 of 3

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

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

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

www.michigan.gov/MDOT-esign

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

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

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

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

MDOT-ProjectWiseConst@michigan.gov

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

preconstruction meeting. The authorized requestors are:

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

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

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

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

MDOT-ProjectWiseConst@michigan.gov.

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

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

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

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

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

Complete the following actions:

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PREVAILING WAGE AND LABOR COMPLIANCE SYSTEM

COS:AS

1 of 2

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

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

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

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

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

Program: LCPtracker

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

General Information website: www.lcptracker.com

A tutorial for this system can be found through 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:AS

1 of 3

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

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

b. Requirements.

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

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

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

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

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

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

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

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

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

Table 1: Schedule of Non-Compliance Damages

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EASTERN MASSASAUGA RATTLESNAKE

ENV:JDG

1 of 2

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

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

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

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

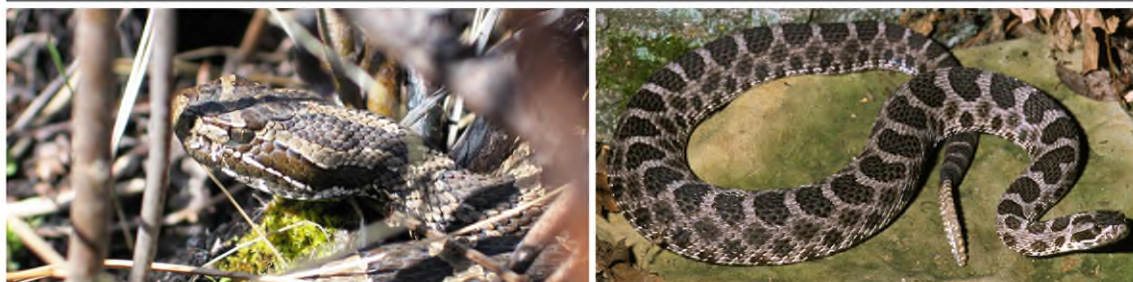
2. Immediately report any possible Eastern Massasauga Rattlesnake sightings to the Engineer.

3. Intentionally 'take' is prohibited.

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

Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)

Protected as federally threatened



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

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

What Does an Eastern Massasauga Rattlesnake Look Like?

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

Where Does It Live?

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

What Should You Do If You See a Massasauga Rattlesnake?

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

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

How is the Massasauga Protected Under the Law?

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

For More Information:

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

Photos

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

General Information

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
UTILIZING DISADVANTAGED BUSINESS ENTERPRISE TRUCKING VENDORS

CSD:LFS

1 of 1

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PROMPT PAYMENT

CFS: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
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
AGGREGATE BASE COURSE

CFS:SAG

1 of 1

APPR:TEB:CRB:10-05-22
FHWA:APPR:12-09-22

Delete the first paragraph of subsection 302.03.A that is shown on page 3-5 of the Standard Specifications for Construction, in its entirety and replace with the following:

Compact the aggregate layers to a uniform thickness, no less than 3 inches and no greater than 10 inches. If the total plan base thickness exceeds 10 inches, construct the base in layers of equal thickness. If placing aggregate base in a layer less than 3 inches, blend the new aggregate base material with the layer below to ensure a total of 6 inches. Unless otherwise directed by the Engineer, blending must be performed to ensure that the new aggregate base material is uniformly mixed and compacted with the aggregate below.

Add the following paragraph before the last paragraph of subsection 302.03.A shown on page 3-5 of the Standard Specifications for Construction:

The Engineer may require a test strip to demonstrate the suitability of the proposed aggregate base placement and compaction method. Secure the Engineer's approval for the method of placement and compaction before continuing. If the accepted method is subsequently modified, the Engineer may require another test strip to confirm compliance with the specification. The Engineer may remove a portion of a layer when conducting density testing to assure the compaction requirements are being met in lower layers.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

CFS:TRC

1 of 1

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

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

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

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

c. Construction. None specified.

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:KPK

1 of 2

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

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

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

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

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

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

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

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

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

used in determining the binder selection.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:KPK

1 of 7

APPR:CJB:JWB:02-26-20

FHWA:APPR:03-13-20

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

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

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter		Top and Leveling Course		Base Course	
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0
		# 30 Sieve	±4.0	±6.0	±6.0
		# 200 Sieve	±1.0	±2.0	±2.0
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
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
MOBILE ATTENUATOR

COS:CRB

1 of 4

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pay Item**Pay Unit**

Mobile AttenuatorEach

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WORK ZONE SIGNING ON LOCAL AGENCY PROJECTS

OFS:MWB

1 of 3

APPR:CRB:AJU:04-02-20
FHWA:APPR:04-03-20

a. Description. In addition to all other maintaining traffic signs required on this project, place work zone signing in accordance with the MDOT Traffic and Safety Maintaining Traffic Typical(s) contained in the proposal, except as modified herein.

On all “Advance Signing Treatment...” Maintaining Traffic Typical(s) (M0030 - M0080):

Replace the R5-18b sign “INJURE/KILL A WORKER \$7500 + 15 YEARS” sign with the R5-18bLA “INJURE/KILL A WORKER // FINE - \$ 7500 // JAIL - 15 YRS” sign, as detailed in the attached graphics.

Delete the R5-18 “TRAFFIC FINES DOUBLED IN WORK ZONES” sign or the R5-18a “TO PROTECT HIGHWAY WORKERS FINES DOUBLED IN WORK ZONES” sign, along with the prescribed ‘D’ spacing distance.

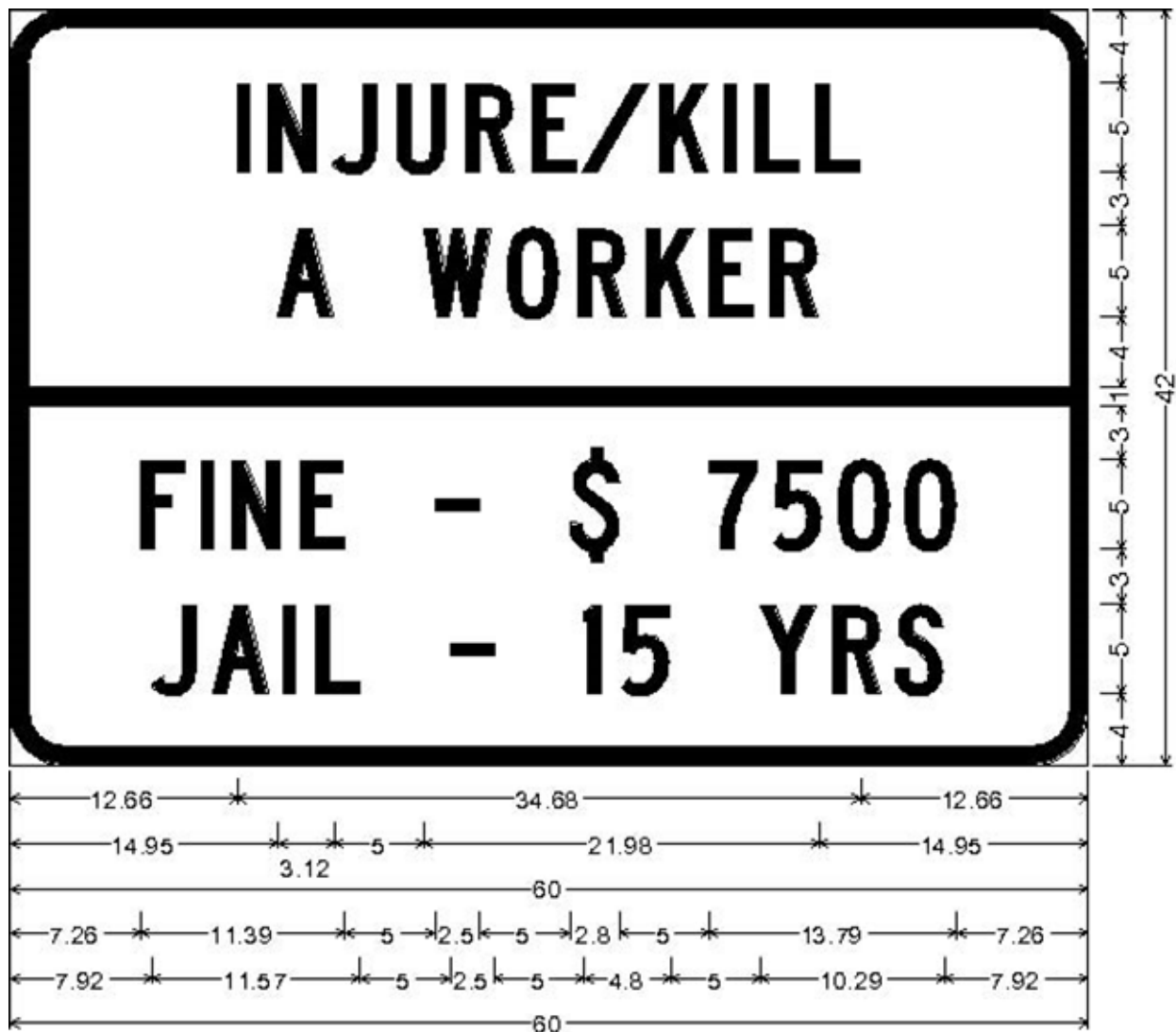
On all other “Typical Temporary Traffic Control...” Maintaining Traffic Typical(s) (M0110 et. al.):

Replace the R5-18c “WORK ZONE BEGINS” sign with the R5-18cLA “WORK ZONE BEGINS // TRAFFIC FINES DOUBLED” sign, as detailed in the attached graphics.

Place the G20-1 “ROAD WORK NEXT __ MILES” sign and the G20-2 “END ROAD WORK” sign in accordance with the appropriate MDOT Traffic and Safety Maintaining Traffic Typical.

Place all other work zone signing in accordance with the project plans and specifications, including the appropriate MDOT Traffic and Safety Maintaining Traffic Typical(s). Place all work zone signing in accordance with the standard specifications.

b. Measurement and Payment. Quantities for Local Agency work zone signs will be included in the plan quantities for the pay items **Sign, Type B, Temp, Furn** and **Sign, Type B, Temp, Oper** or **Sign, Type B, Temp, Prismatic, Furn** and **Sign, Type B, Temp, Prismatic, Oper**. Payment for the signs will be made at the contract unit prices.

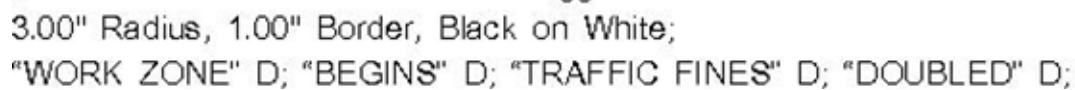


3.00" Radius, 1.00" Border, Black on White;

"INJURE/KILL" C; "A WORKER" C; "FINE - \$ 7500" C; "JAIL - 15 YRS" C;

- All dimensions in inches.
- Not to Scale.

R5-18bLA



- 155

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, TempEach

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
TEMPORARY PEDESTRIAN PATH

COS:CRB

1 of 2

APPR:MRB:CAL:06-25-21
FHWA:APPR:06-28-21

a. Description. This work consists of furnishing, installing, maintaining, and removing a temporary pedestrian path as identified in the proposal or on the plans. Temporary pedestrian paths, or segments thereof, will be repaired or replaced as directed by the Engineer.

b. Materials. Provide materials to construct a temporary pedestrian path in accordance with the contract, the *Public Rights-of-Way Accessibility Guidelines (PROWAG)*, the *MMUTCD*, as directed by the Engineer, and the following requirements:

1. Ensure the materials used to construct the temporary pedestrian path yields a continuous hard surface that is firm, stable and slip resistant. Ensure the path does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the path include asphalt materials, Oriented Strand Board (OSB), plywood, dimensional lumber, reclaimed, or other as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.

2. If asphalt materials are not used to construct the path, provide an antiskid coating, or surface treatment as directed by the Engineer.

c. Construction. Construct the temporary pedestrian path in accordance with *PROWAG*, the *MMUTCD*, the contract, the direction of the Engineer, and the following:

1. Ensure the useable surface of the path is a minimum of 48 inches wide. The maximum cross slope for the path is 2 percent. The path, including transitions to the adjacent surface at both ends, must be free of vertical discontinuities greater than 1/4 inch. Eliminate any vertical discontinuities greater than 1/4 inch up to 1/2 inch or bevel with a slope not steeper than 1:2. If a vertical discontinuity greater than 1/2 inch or a running slope greater than 1:20 occurs on the project, a Temporary Pedestrian Ramp (paid for separately) is required.

- A. Ensure an anti-slip surface treatment is applied to the surface of the path, if not constructed with asphalt materials, as directed by the Engineer.

- B. If the surface of the path is constructed from OSB, plywood, or dimensional lumber securely connect all sections with appropriate fasteners to ensure a continuous, uniform, and flat surface.

- C. Ensure the temporary pedestrian path includes passing spaces at intervals of 200 feet maximum. The passing spaces are to be of the same material as the rest of the temporary pedestrian path. Dimension the passing spaces with a minimum width of 60 inches and minimum length of 60 inches. Passing spaces are not required if the path is already 60 inches wide.

2. Ensure all debris and construction material is cleared from the path throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required.

3. Repair or replace the path, or segments thereof, if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes as directed by the Engineer.

4. Following the use of the temporary path, the Contractor must remove and dispose all materials used to construct the path, and restore the area 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
Pedestrian Path, Temp.....	Foot

Pedestrian Path, Temp will be measured along the centerline of the path. **Pedestrian Path, Temp** includes all costs related to installation, maintenance, restoration, and removal of the path and disposal of all associated materials throughout the life of the contract. Temporary passing spaces are considered a part of the pedestrian path and are included in this pay item.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TEMPORARY PEDESTRIAN RAMP

COS:CRB

1 of 2

 APPR:MRB:CAL:02-09-21
FHWA:APPR:02-18-21

a. Description. This work consists of furnishing, installing, maintaining, relocating, and removing a temporary pedestrian ramp as identified in the proposal or on the plans. Use temporary pedestrian ramps to facilitate pedestrian travel on accessible facilities over curbs or other uneven terrain features with a vertical difference of 1/2 inch or greater. Damaged pedestrian ramps will be replaced as directed by the Engineer.

b. Materials. Provide materials to construct a temporary pedestrian ramp in accordance with the *Americans with Disabilities Act (ADA)*, *MMUTCD*, the standard specifications, and the following:

1. Ensure the material used to construct the temporary pedestrian ramp is firm, stable, slip resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle, or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the surface of the ramp include asphalt materials, Oriented Strand Board (OSB) or plywood, dimensional lumber, certain reclaimed or other materials as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.

2. Provide a handrail on both sides of the ramp if the ramp is not exposed to vehicle traffic and has a total rise greater than 6 inches, and a length greater than 72 inches. Ensure the handrail is between 1.25 and 1.5 inches wide and configured to be a "graspable" cross-section. See subsection c.1.A of this special provision for additional details. When the ramp is exposed to traffic, in lieu of handrails, use a protective edge 2.5 inches minimum height above the ramp surface or 1:10 flare on both sides of the ramp.

3. Ensure the surface of the ramp is free draining; in addition, provide features that allow drainage to move past the ramp installation (i.e. along the gutter pan underneath the ramp if the ramp is installed on a curb).

4. Provide materials to construct detectable edging along open sides of the ramp if required.

5. If asphalt materials are not used to construct the surface of the ramp, provide an anti-slip coating or surface treatment approved by the Engineer.

c. Construction. Construct the temporary pedestrian ramp in accordance with the manufacturer's recommendations (if applicable), *ADA*, *MMUTCD*, the plans, and the following:

1. Ensure the useable surface of the ramp is 48 inches wide and does not deflect due to pedestrian traffic. Ensure an anti-slip surface treatment is applied to the useable area of the

ramp if it is not made from asphalt materials. The maximum cross slope of the ramp is 2 percent. Ensure both ends of the ramp smoothly transitions to the adjacent surface, with 1/4 inch or less vertical difference.

Construct the ramp to maintain a longitudinal slope from 1:10 to 1:12 where possible. Otherwise, a longitudinal slope from 1:8 to 1:10 may be used for a maximum rise of 3 inches. Temporary pedestrian ramps with longitudinal slopes greater than 1:8 are prohibited.

A. Provide a handrail on both sides of the ramp if required as stated herein. Ensure the top of the handrail is between 34 and 38 inches above the surface of the ramp. Ensure a minimum width of 36 inches is maintained between the handrails, with a minimum clearance of 1.5 inches behind and 18 inches above.

Construct a structurally stable handrail that meets the requirements as defined in the *ADA* and *MMUTCD*.

2. Construct a detectable edging anytime a handrail is required, and anytime the path changes direction. This includes a turn onto the ramp from the path. Detectable edging must begin a maximum of 2.5 inches above the ramp surface and extend at least 6 inches above the ramp surface.

3. Ensure a clear space (minimum 48 inches by 48 inches) is provided above and below the ramp.

4. Avoid locating ramps in areas of drainage collection, ponding or running water, which can produce slippery or unsafe conditions. If the ramp is located over a gutter pan or other drainage structure, provide features to facilitate water movement around or under the ramp as approved by the Engineer.

5. Ensure all debris and construction material is cleared from the surface of the ramp throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required. Repair or replace the ramp if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes 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
Pedestrian Ramp, Temp.....	Each

Pedestrian Ramp, Temp includes furnishing, installing and removing a temporary pedestrian ramp at the locations shown on the plans, as well as all costs for maintaining, clearing debris, deicing, reconfiguring, and relocating the temporary pedestrian ramp throughout the life of the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EXCAVATED TOPSOIL OR SALVAGED TOPSOIL

RSD:NJM

1 of 1

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

Delete subsection 816.03.A.3, on page 8-145 of the Standard Specifications for Construction, in its entirety and replace with the following:

3. **Excavated Topsoil or Salvaged Topsoil.** Excavate topsoil intended for salvaging in accordance with subsection 205.03.A.1. The Engineer will direct stockpiling excavated or salvaged topsoil within the right-of-way. Salvaged topsoil must be weed-free prior to establishing new growth. Salvaged topsoil that is made unsuitable for use from excavation, maintenance, or other Contractor operations will be rejected by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
INDUSTRIAL BY-PRODUCTS AND BENEFICIAL RE-USE

HYD:HLZ

1 of 1

APPR:JJG:JFS:04-02-20
FHWA:APPR:04-03-20

a. Description. For this project, regardless of the application, the use of industrial by-products covered in 2014 PA 178 is prohibited unless the use and application of a particular material is covered elsewhere in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PORTLAND CEMENT (TYPE IL)

CFS:JFS

1 of 2

APPR:TES:TEB:12-14-21
FHWA:APPR:12-16-21

a. Description. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for concrete mixtures and other applications where Type I Portland cement is specified, provided documentation showing specification compliance is provided as described herein.

The Contractor must provide the Engineer a minimum of 14 calendar days prior notification of their intent to substitute Type IL Portland cement in lieu of Type I Portland cement for the project.

b. Materials. Furnish Type IL Portland cement in accordance with section 901 of the Standard Specifications for Construction meeting the chemical and physical requirements specified in *ASTM C595/C595M, Standard Specifications for Blended Hydraulic Cements*. Ensure the Type IL Portland cement proposed for substitution is from the same Approved Manufacturer as the Type I Portland cement in the approved JMF.

c. Construction. At least 7 days prior to concrete production, the concrete producer must provide test data (specified below) generated from a four cubic yard (minimum) trial batch of concrete using Type IL Portland cement for the Engineer's review and approval. The trial batch must represent a current approved JMF for either a standard MDOT Grade 3500, Grade 3500HP, Grade 4500, or Grade 4500HP concrete mixture produced using Type I Portland cement, as described in section 1004 of the Standard Specifications for Construction. Ensure the materials and mixture proportions for the Type IL JMF are the same as those documented in the above mentioned JMF using Type I Portland cement. Minor adjustments to chemical admixture dosages are permitted in efforts to achieve the specified fresh concrete properties. Trial batch compliance for applications other than Portland cement concrete mixtures will be in accordance with the contract.

1. Fresh Concrete Properties.
 - A. Concrete temperature,
 - B. Air content of fresh concrete, and
 - C. Slump.
2. Hardened Concrete Properties.
 - A. 7-day compressive strength.

The Engineer will review the trial batch test data to determine if the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of

concrete represented by the trial batch. If the Engineer determines that the trial batch test data are in conformance with specification requirements, then the Type IL Portland cement will be permitted to be substituted in lieu of the Type I Portland cement for all approved concrete mixtures generated at the concrete production facility for the project. If the Engineer determines that the trial batch test data do not meet specification requirements for the respective MDOT Grade of concrete, the Contractor will not be permitted to substitute Type IL Portland cement in lieu of Type I Portland cement. Mix design and JMF documentation for concrete mixtures using Type IL Portland cement will then be required in accordance with subsection 1003.03.C of the Standard Specifications for Construction or the contract, where applicable.

Once Type IL Portland cement is approved for use on the project, reinstatement of Type I Portland cement into the JMF is not permitted. Substitution of other material types or sources, including admixtures, as documented in the initial Type I JMF is not permitted.

The Engineer will complete field sampling and testing for all production lots containing Type I Portland cement JMF prior to respective Type IL Portland cement substitution. Do not include concrete mixtures containing Type I and Type IL Portland cement types in the same production lot.

d. Acceptance. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for the project with no additional laboratory trial batch requirements, as described in subsection 1003.03.C.2.a of the Standard Specifications for Construction, provided the Engineer has reviewed the concrete producer's test data generated from a four cubic yard (minimum) trial batch of concrete, described above, and has determined that the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of concrete represented by the trial batch.

e. Measurement and Payment. The work included in this special provision will not be paid for separately and is included in other pay items in the contract.

MICHIGAN
DEPARTMENT OF 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	—	—	—
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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.

MDOT Special Provision and Details Link:

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

Notice to Bidders

Selected	Number	Description
✓	20NB01-02	20NB01-02 MULTIPLE DAVIS-BACON WAGE DECISIONS - Use in all projects with federal funding.
✓	20NB02	20NB02 BID RIGGING - Use in all projects with federal funding.
✓	20NB03	20NB03 FRAUD AND ABUSE HOTLINE - Use in all projects.
	20NB04-05	20NB04-05 USE OF CRUSHED CONCRETE FOR DENSE-AND OPEN-GRADED AGGREGATES - Use in all projects that are within 100ft of a water course, wetland, or lake where Dense-and Open-Graded Aggregates are required. (This is a fillable form. After creating package, locate form in package and list the estimated amount of material and the locations (in stations) by pay item).
	20NB05	20NB05 APPLICABILITY OF SPECIAL PROVISIONS - Use in projects with multiple job types in one contract (i.e. Capital Preventative Maintenance with a Reconstruction or a Trunkline project that includes Local Agency work).

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**.

CITY OF SAULT STE. MARIE

NOTICE TO BIDDERS FOR UTILITY COORDINATION

City of Sault Ste. Marie

1 of 2

11/2023

a. Description. The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the Michigan Department of Transportation 2020 Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the Michigan Department of Transportation 2020 Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

b. Public Utilities. The following Public Utilities have facilities located within and/or adjacent to the project CIA:

UTILITY COMPANY	CONTACT PERSON(S)	PHONE NO.
CITY OF SAULT STE. MARIE Water & Sewer Department 1200 E. Easterday Avenue Sault Ste. Marie, MI 49783	Kirk Tews 989-631-0285 (cell)	906-632-8981
	Brian Masterson (906) 322-7422 (cell)	906-632-6940 FAX
DTE ENERGY / MICH CON GAS CO. Local Office: 1125 E. Easterday Avenue Sault Ste. Marie, MI 49783	Rich Ackerman 906-630-1066 (cell) richardackerman@dteenergy.com	906-632-3330
	Justin Fisher (906) 630-2133 Justin.fisher@dteenergy.com	906-632-3347 906-632-1378 FAX
	Todd DeWese	
Large Gas Service Requests	Zachary Kerfoot	Work: 231-932-284 Cell: 231-499-7331
Small Gas Service Requests	Jeannine Najmowicz	Work: 989-356-2499 Cell: 734-564-8618
Main Office: (Plan Reviews and Precon Mtgs.) 1250 Mich Con Lane, S.W. PO Box 279 Kalkaska, MI 49646	Matt Logan (public improvement coordinator) 231-463-5860 (cell) matthew.logan@dteenergy.com	231-258-3785 231-258-3786 FAX
CLOVERLAND ELECTRIC COOPERATIVE 2916 W. M-28 Dafter, MI 49724	Paul Warner	906-632-5152 906-632-5168 906-632-5450 FAX
	Johanna Wiltfong Easements & Permits jwiltfong@cloverland.com	906-632-5191 906-440-7571

	John Paquette Distribution jpaquette@cloverland.com	906-440-6196 (cell)
AT&T (SBC Ameritech) 310 W. 7th Avenue Sault Ste. Marie, MI 49783 (pre-con)	Mike Anderson (906) 440-4478 (cell) MA1421@att.com	906-632-9901 906-632-9973 FAX
(Plan Reviews and Precon Mtgs. & Broken Poles)	Jeff Collard (586)764-8260 Jc7632@att.com	
CHARTER COMMUNICATIONS CO. 2682 Ashmun Street Sault Ste. Marie, MI 49783	Matt Claycomb Const. Supervisor Cell (231) 463-1903 matt.claycomb@charter.com	989-671-7255
(Plan Reviews and Precon Mtgs.)	Craig Purple Const. Coord. II 906-440-1005 (cell) craig.purple@charter.com	906-748-8475
Main Office 359 U.S. 41 EastNegaunee, MI 49866	Brian Koski Const. Coord. II 906-235-7801 (cell) brian.koski@charter.com	906-401-0639
Peninsula Fiber Network (PFN) 9984 W. State St. Brimley, MI 49715	Ron Deneve (906) 248-3211 rdeneve@jamadots.net	

Owners of Public Utilities will not be required by the City/Department 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.

Refer to Division 1 of the Michigan Department of Transportation 2020 Standard Specifications for Construction related to coordination with existing utilities and their work.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

1 of 10

06-30-23

Page	Subsection	Errata
1-06	101.02	Delete the second abbreviation of the list on this page reading: "IES Illuminating Engineering Society
1-06	101.02	Add the abbreviation to the list on this page reading: "IESNA Illuminating Engineering Society of North America
1-83	108.05.A.2	In the first paragraph of this subsection change the language "MDOT Form 1130" to read "MDOT Form 1130A".
1-88	108.08.D	Move the last paragraph of this subsection to the left one indent to align with the first paragraph of the subsection and not with the subsection 108.08.D.3.
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: "Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains."
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: "Do not dispose of material, temporarily or permanently, in wetlands or floodplains."
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: "Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites."
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: "Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department."
2-30	205.03.P.4	Delete the first sentence of this subsection and replace with the following:

“The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans.”

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|------|------------|--|
| 3-31 | 308.04.D | Change the subsection title from “D. General. ” to read “A. General. ” |
| 4-7 | 401.03.E | Delete the third sentence of the second paragraph of this subsection and replace with the following:
“Use precast or cast-in-place footings for precast end sections as required.” |
| 4-8 | 401.03.E | Delete the first sentence of this subsection and replace with the following:
“When discharging stormwater directly to waters of the state, permanently label all end sections or other piped points of stormwater entry with “MDOT” or the local agency’s name in a conspicuous location that will remain visible after construction. |
| 4-11 | 401.04 | Change the eighth pay item from the bottom of the list on this page to read as follows:
Culv End Sect __ inch, Grate.....Each |
| 4-12 | 401.04.C.4 | Change this subsection to read:
“The Engineer will measure Culv End Sect __ inch, Grate by each as shown on the plans for the size of grate required.” |
| 4-21 | 402.03 | Add a new subsection to the end of subsection 402.03 on this page reading as follows:
“K. Outfall Labeling. Label all stormwater outfalls directly discharging to waters of the state in accordance with subsection 401.03.E. |
| 4-39 | 406.02 | Change the third line in the list of materials to read:
Coarse Aggregate 6A, 6AA, 17A.....902 |
| 4-41 | 406.03.A.3 | Delete the third paragraph of this subsection and replace with the following:
“Design joints between adjacent box culvert sections in accordance with Section 9 of ASTM C1577 and to accommodate the joint sealing material in accordance with section 914 as applicable.” |
| 4-50 | 406.03.G.3 | Change the first sentence of the first paragraph to read:
“Unless otherwise shown on the plans, construct culvert bedding for box culverts by placing a 9-inch-thick layer of 46G aggregate, covered with a 3-inch-thick layer of 34G, 34R aggregate, or approved equal.” |
| 4-51 | 406.03.G.3 | Add the following sentence to the end of the second paragraph of this subsection: |

"The cold applied joint sealer must completely cover the external rubber gasket with the placement limits matching the width of the geotextile blanket."

- | | | |
|------|------------|--|
| 4-52 | 406.04.B | In the second paragraph of this subsection delete the first sentence and replace with the following:
"The Department will pay separately for cast-in-place concrete, other than for culvert segments, headwalls, wingwalls, aprons, and curtain walls." |
| 5-26 | 502.02 | Delete the first sentence of the subsection and the listed materials in this subsection. |
| 5-26 | 502.02.A | Add the following to the end of the first sentence in this subsection:
"(914.04A)" |
| 5-26 | 502.02.B | Add the following to the end of the first sentence in this subsection:
"(502.02B)" |
| 5-35 | 503.04 | Change the first paragraph to read:
"The unit price for Paver-Placed Surface Seal , of the type required, includes the cost of preparing the surface, and placing a membrane and paver placed surface seal course for full-width coverage, except that the Department will pay separately for removing pavement markings in accordance with subsection 812.04" |
| 5-46 | 504.04.A | Change the first paragraph to read:
"A. General . The unit prices for Micro-Surface , regardless of the type required, include cleaning existing pavement, applying a bond coat, stationing, corrective action, and traffic control to complete corrective action." |
| 6-20 | 602.04 | Delete the fifteenth pay item of the list on this page reading:
"Shoulder, Reinf Conc.....Square Yard |
| 6-20 | 602.04 | Change the sixteenth thru the eighteenth pay items on this page to read as follows:
Shld, Nonreinf Conc.....Square Yard
Shld, Nonreinf Conc, High PerformanceSquare 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	<p>Add the following sentence to the end of the first paragraph of this subsection:</p> <p>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.</p>
6-23	602.04.F	<p>Delete the following language from this subsection on this page:</p> <p>“The Engineer will not core the following:</p> <ol style="list-style-type: none"> 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:
6-24	602.04	“1. Initial Core.
6-24	602.04	2. Additional Cores.
6-25	602.04	3. Price Adjustment for Thickness.
6-26	602.04	4. Price Adjustments for Steel Locations within the Pavement.
		5. Remove and Replace.”
7-107	709.04	<p>Change the Pay Unit on the second pay item from the top of the list on this page to read as follows:</p> <p>Thousand Board Foot</p>
8-12	804.03.B.2	<p>Change the first sentence in this subsection to read:</p> <p>“Cast in place light standard and sign support foundations using fixed forms in accordance with the <i>MDOT Standard Plan R-50 series</i>.”</p>
8-27		<p>Change the last pay item at the bottom of this page to read as follows:</p> <p>Guardrail Anch, Bridge, Det __, CurvedEach</p>
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	<p>Change the fourth pay item from the top of the list on this page to read as follows:</p> <p>Post, Steel, __ pound.....Foot</p>

8-53	810.04	<p>Change the last four pay items at the bottom of this page to read as follows:</p> <p>Fdn, Truss Sign Structure Type __, __ inch dia, Cased.....Foot</p> <p>Fdn, Truss Sign Structure Type __, __ inch dia, UncasedFoot</p> <p>Fdn, Cantilever Sign Structure Type __, __ inch dia, CasedFoot</p> <p>Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased.Foot</p>
8-55	810.04.B.1	<p>Delete the second paragraph of this subsection and replace with the following:</p> <p>“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.”</p>
8-55	810.04.B.2	<p>Delete this subsection and replace with the following:</p> <p>“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.”</p>
8-57	810.04.I	<p>Delete the first paragraph of this subsection and replace with the following:</p> <p>“The unit price for Sign, Rem of the type required includes the cost of removing signs from supports and stacking by shape and size.”</p>
8-57	810.04.I	<p>Delete the second paragraph of this subsection and replace with the following:</p> <p>“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.”</p>
8-57	810.04.L	<p>Change this subsection to read:</p> <p>“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.”</p>
8-58	810.04.N	Delete this subsection in its entirety.
8-110	812.04	<p>Change the fifth and sixth pay item from the top of the list on this page to read as follows:</p> <p>Sign, Type B, Temp, Prismatic, Spec, Furn Square Foot</p> <p>Sign, Type B, Temp, Prismatic, Spec, Oper Square Foot</p>
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 coillable, Schedule 80 PE conduit in accordance with section 818."
8-199	820.04	Add the pay item to the list on this page: TS, (number) Way (type) Mtd (LED) Optic
8-200	820.04	Change the second pay item from the top of the list on this page to read as follows: TS Head, TempEach
8-200	820.04	Change the eleventh pay item from the top of the list on this page to read as follows: TS, Lens, Pedestrian Sym (LED)Each
8-200	820.04	Delete the following pay items from the list: Strain Pole, Steel, 6 bolt, __ foot.....Each Mast Arm Pole, Cat.....Each Mast Arm, __Foot, Cat.....Each
8-200	820.04	Change the eleventh pay item from the bottom of the list on this page to read as follows: Mast Arm, Rem.....Each
8-201	820.04	Delete the following pay item from the list: Power Co. (Est Cost to Contractor)..... Dollar
8-202	820.04	Add the following pay item to the list: Bracket, Truss, Salv.....Each
8-204	820.04.C	Delete the last paragraph of this subsection in its entirety.
8-204	820.04.D	Delete the first paragraph of this subsection in its entirety.
9-9	902.03.C.1.b	Delete the first sentence in this subsection and replace with the following: "The physical requirements for the coarse aggregate are as specified in Table 902-2 and as follows:"
9-16	Table 902-2	Delete the superscript footnote in the first through fourth rows under the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-16	Table 902-2	Add the superscript footnote in the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-15	Table 902-2	Delete the footnote (d) in one location in the table.
9-17	Table 902-2	Delete the footnote (d) in one location in the table.

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.
9-70	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."
9-94	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 seventh 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."
10-43	Table 1006-02	Replace Table 1006-02 with the Table 1006-02 below.
1A - 20A	Pay Item Index	Replace the Pay Item Index in its entirety.

**Table 1006-2:
Overlay Mixtures**

Mixture Type	Aggregate	Slump (inch)	Air Content	Admixture Required	Mixture Proportions lb/yd ³ , dry weight					
					Cement ^(a)	Dry Densified Silica Fume ^(b)	Net Mix Water	Fine Agg	Coarse Agg	Latex Admixture
SFMC	2NS and 26A ^(c)	4–6	6.5 ± 1.5%	(d),(e),(f)	618	40	273 ^(g)	1273	1601	—
LMC	2NS and 26A ^(c)	(h)	4.5 ± 1.5%	—	658	—	(h)	1490 ^{(i),(j)}	1300 ^{(i),(j)}	206

(a) Use only Type I Portland cement.

(b) For SFMC mixtures, the Contractor may use a blended silica fume Portland cement. However, if the silica fume content of the blended material is greater than 8% of the total cementitious material, submit to the Engineer modified mix proportions with Type I Portland cement added to the blended material to achieve the equivalent individual cementitious material mixture proportions.

(c) Provide coarse aggregate, 95% minimum crushed materials in accordance with Michigan Test Method (MTM) 117, with an absorption no greater than 2.5%, in accordance with ASTM C127.

(d) Water-reducing high-range admixture or water-reducing high-range and retarding admixture.

(e) Virgin polypropylene collated fibers at 2 lb/yd³.

(f) Air-entraining admixture.

(g) Provide a net water to cementitious material ratio of 0.41 (cementitious material includes cement and silica fume).

(h) Add water in addition to water in the latex admixture to control slump to within 3 to 5 inches. Measure slump from 4 to 5 minutes after discharge from the mixer. During the waiting period, deposit concrete on the deck and do not disturb. If placing mixtures on sections within superelevated curves, the Contractor may need to use the lower allowable range of the slump requirement, as determined by the Engineer. Do not exceed water-cement ratio, by weight, of 0.30 including water contained in the latex emulsion.

(i) Aggregate proportions are approximate; due to gradation changes, the Contractor may increase proportions by no greater than 5% by weight of total aggregate if reducing coarse aggregate by an equivalent volume.

(j) Aggregate weights specified in the table are based on a dry bulk specific gravity of 2.65 for gravel and stone. Adjust the weights if the specific gravity of the materials used varies by more than 0.02 from the specified values.

CITY OF SAULT STE. MARIE, MICHIGAN
IN COOPERATION WITH THE
MICHIGAN DEPARTMENT OF TRANSPORTATION
AND THE FEDERAL HIGHWAY ADMINISTRATION
PLANS FOR IMPROVEMENTS

MERIDIAN STREET RECONSTRUCTION:
WEST EASTERDAY AVE TO WEST 8TH AVENUE

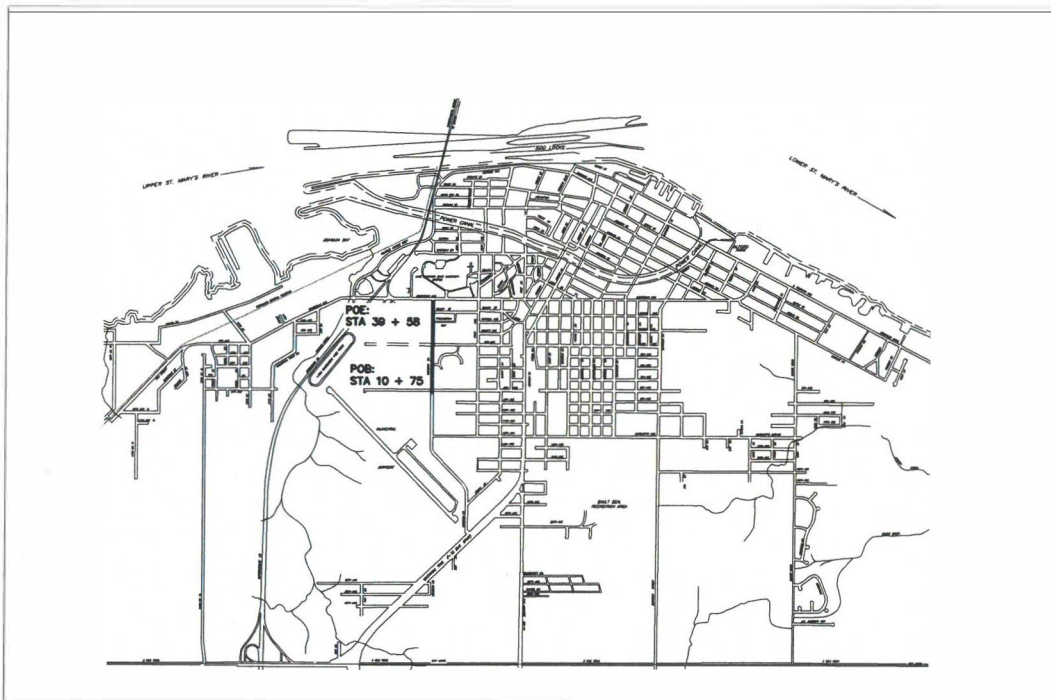
JN: 208179 CS: STUL 17000

THE IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH SECTION B "NEW CONSTRUCTION/RECONSTRUCTION (4R OF THE) "MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS, 2017 EDITION AND IN 2012 AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES."

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS



TRAFFIC DATA:
DESIGN SPEED: 25 MPH
AADT: 2,284 (2022)
5% COMMERCIAL
FUTURE AADT: 2,780 (2042)
5% COMMERCIAL



CONTRACT FOR:

RECONSTRUCTION OF MERIDIAN STREET BETWEEN WEST EASTERDAY AVENUE AND WEST 8TH AVENUE, INCLUDING CONCRETE CURB AND GUTTER, HMA SURFACE, DRIVEWAY APPROACHES, DRAINAGE STRUCTURES, STORM SEWER, SANITARY SEWER, LINING OF WATER MAIN, ADA COMPLIANT CURB RAMPS, AND PERMANENT TRAFFIC SIGNAGE

CONTRACT LENGTH: 0.540 MILE (2,855 FEET)

CITY OF SAULT STE. MARIE APPROVAL

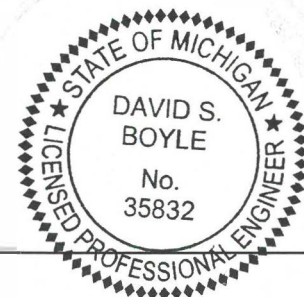
DAVID S. BOYLE, P.E.
 CITY ENGINEER

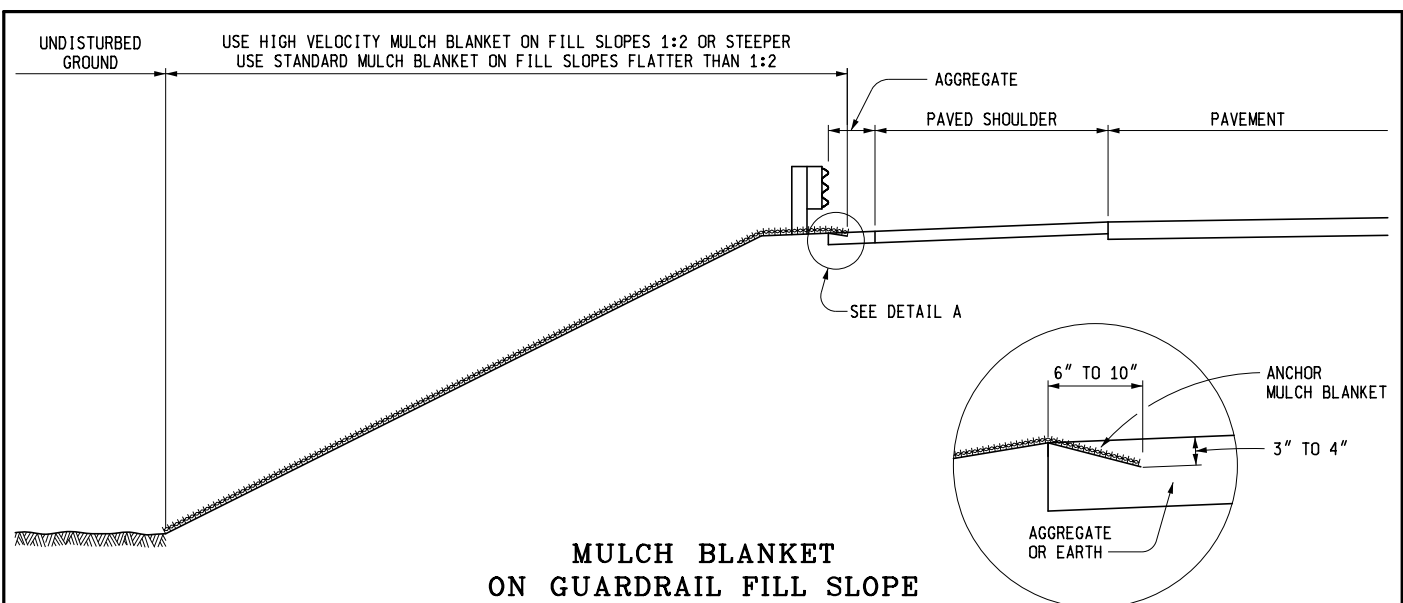


IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PERFORM ALL WORK UNDER THIS CONTRACT IN ACCORDANCE WITH ALL APPLICABLE PRECEDENT, RULES, RULES AND STANDARDS OF THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MIOHSA), CODING 154 OF THE PUBLIC ACTS OF 1974 AND AS AMENDED.

PREPARED UNDER SUPERVISION OF

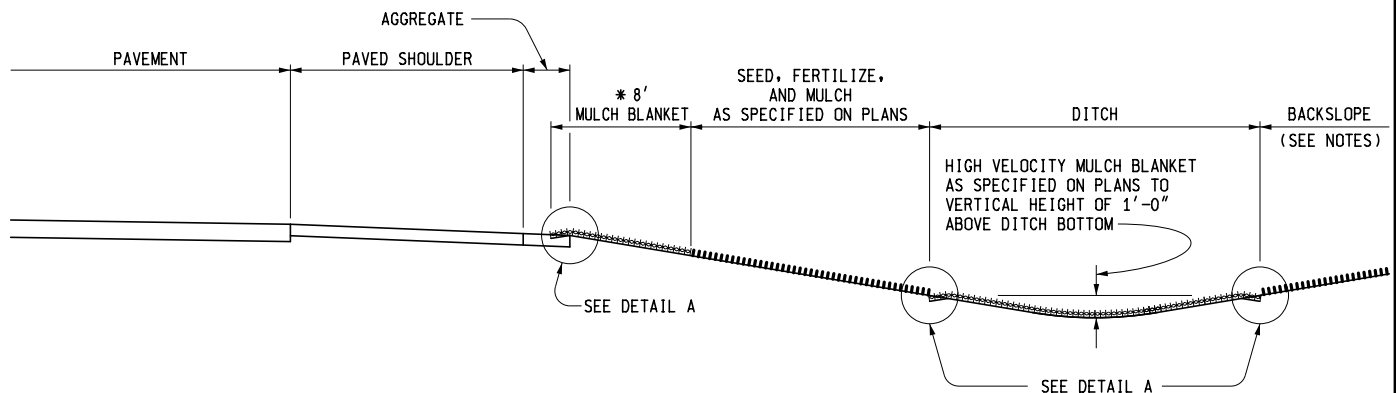
DAVID S. BOYLE, P.E.
 CITY ENGINEER



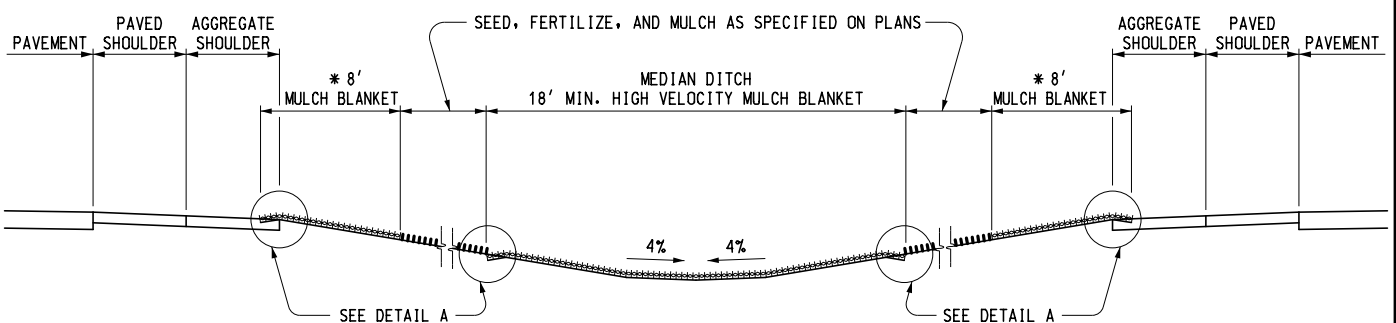


**MULCH BLANKET
ON GUARDRAIL FILL SLOPE**

DETAIL A



TYPICAL SLOPE AND DITCH PROTECTION



MULCH BLANKET SPILLWAY DITCH

* NOTE:

MULCH BLANKET SHALL BE USED ON BOTH SIDES OF NORMAL SECTIONS, HIGH SIDES OF ALL SUPERELEVATED SECTIONS, AND LOW SIDES OF PAVEMENTS HAVING A SUPERELEVATION OF 5% OR LESS. HIGH VELOCITY MULCH BLANKET SHALL BE USED ON THE LOW SIDE OF PAVEMENTS HAVING A RATE OF SUPERELEVATION GREATER THAN 5%.



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT 185

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

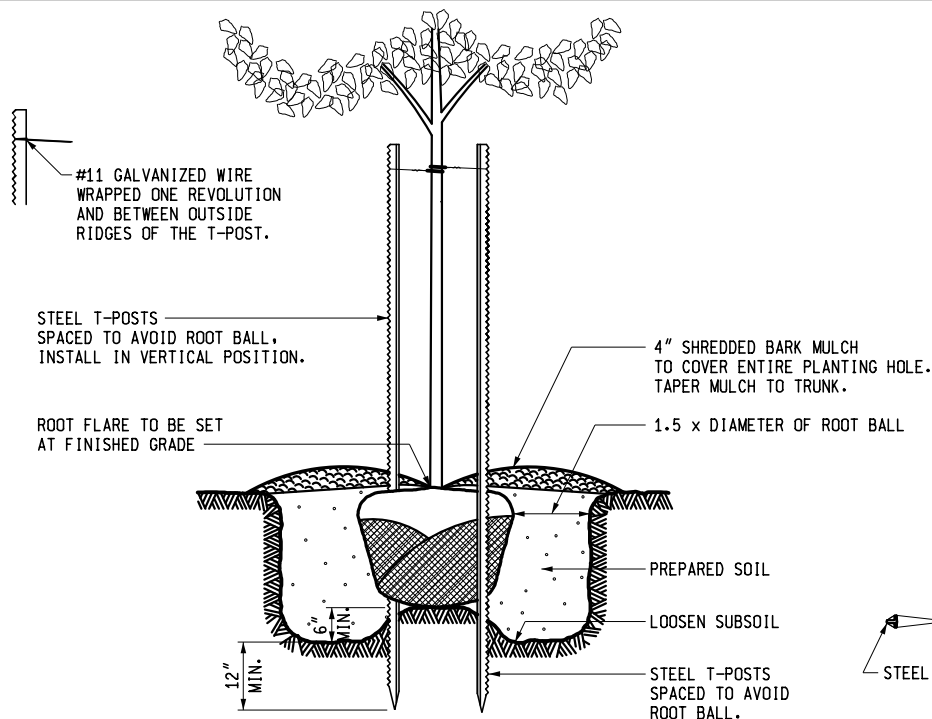
SEEDING AND TREE PLANTING

F.H.W.A. APPROVAL

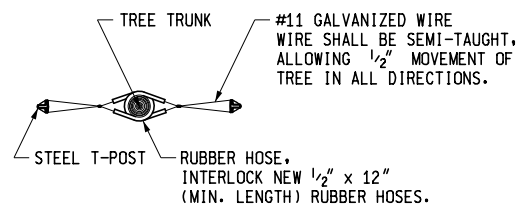
8-3-2021
PLAN DATE

R-100-I

SHEET
1 OF 4



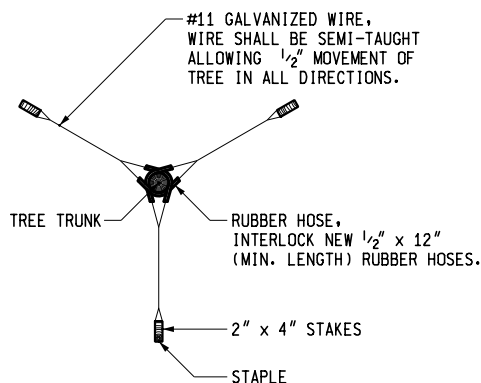
BRACING - VERTICAL STAKES



BRACING DETAIL

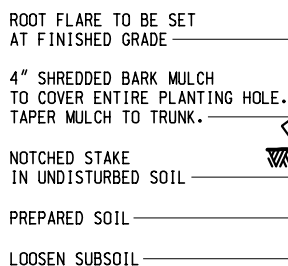
BRACE DECIDUOUS TREES 2" TO 4" IN CALIPER OR 8' OR MORE IN HEIGHT WITH TWO STAKES.

BRACE DECIDUOUS TREES LESS THAN 2" IN CALIPER OR 8' IN HEIGHT WITH ONE STAKE ON THE WESTERLY SIDE OF THE PLANT.

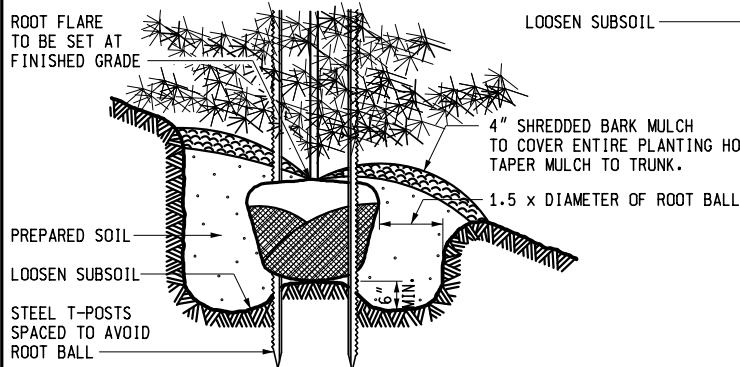


TRIPOD GUYING DETAIL

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

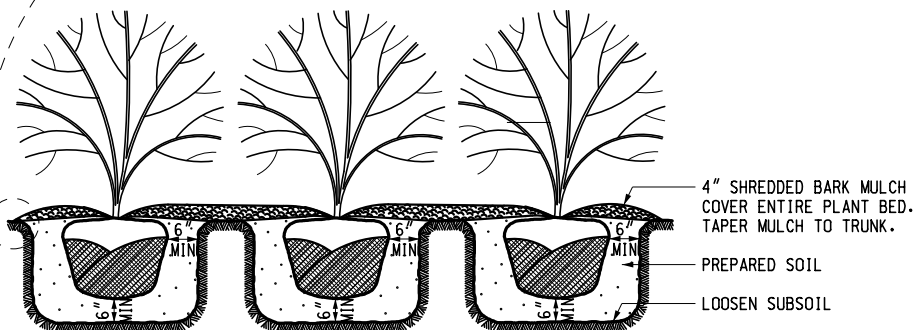
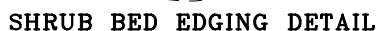


SLOPE PLANTING

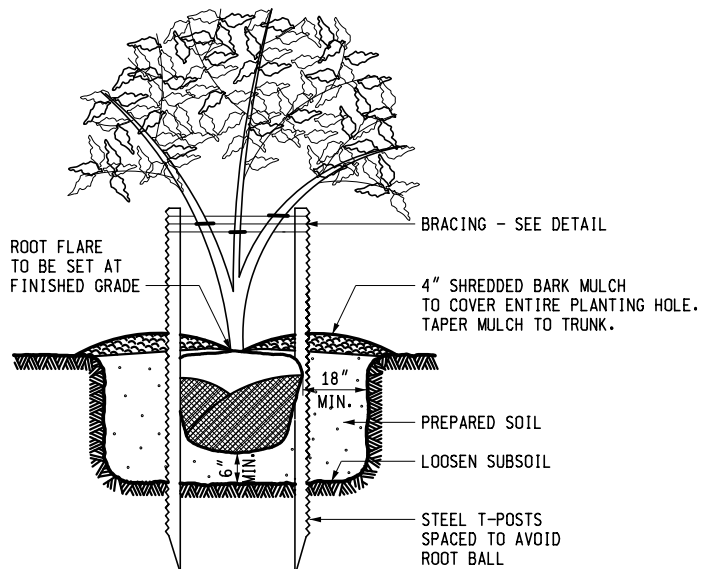
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SEEDING AND TREE PLANTING

F.H.W.A. APPROVAL	8-3-2021 PLAN DATE	R-100-I	SHEET 2 OF 4
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SHRUB BED DETAIL



MULTIPLE STEM TREES

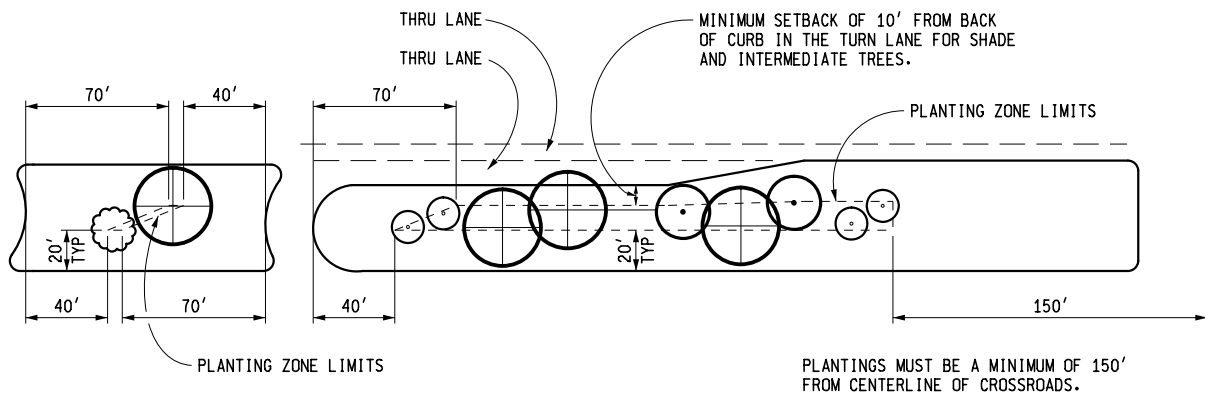
SEEDING AND TREE PLANTING

F.H.W.A. APPROVAL

8-3-2021
PLAN DATE

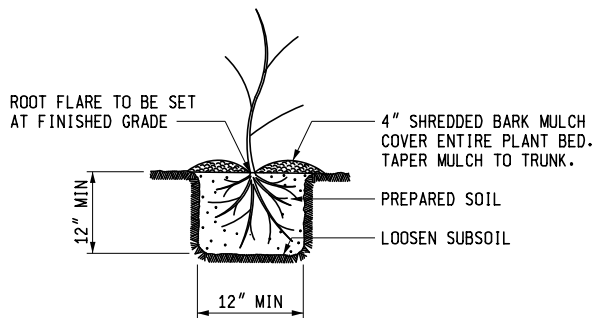
R-100-I

SHEET
3 OF 4



MEDIAN PLANTING

NOT TO SCALE



BARE ROOT PLANTS

PLANTING BARE ROOT PLANT MATERIAL

REFER TO THE "SPECIAL PROVISIONS FOR BARE ROOT PLANTING" FOR SHIPPING, STORAGE AND HANDLING REQUIREMENTS.

MAINTAIN ROOT MOISTURE BY KEEPING ROOTS IMMERSED IN WATER PRIOR TO PLANTING.

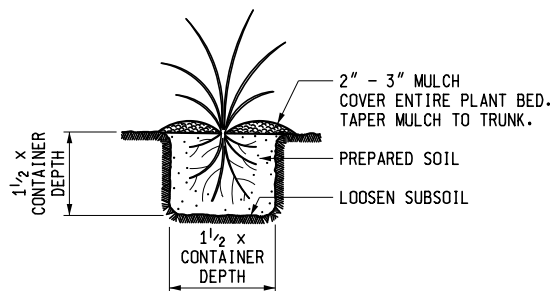
ROOT PRUNE AS NECESSARY TO REMOVE ALL DAMAGED OR BROKEN ROOTS, AND AS REQUIRED BY THE DISTRICT FORESTER OR RESOURCE SPECIALIST.

DIG PLANTING HOLES AT LEAST 12" WIDE AND 12" DEEP TO ACCOMMODATE ROOT MASS.

SET PLANTS PLUMB WITH THE ROOTS SPREAD PUT IN A NATURAL POSITION AT A DEPTH EQUAL TO THE DEPTH AT THE NURSERY.

HOLD PLANT FIRMLY AND PUDDLE (NOT TAMP) THE BACKFILL AROUND THE ROOTS WITH WATER. SUFFICIENT WATER SHALL BE USED TO ENSURE SATURATION OF THE BACKFILL, BUT CARE SHOULD BE TAKEN NOT TO OVERWATER, CAUSING A FLOATING SOIL MASS THAT PREVENTS COMPACTION AND MAY RESULT IN AIR POCKETS ADJACENT TO THE ROOTS. BACKFILL SHOULD BE FLUSH WITH THE GROUND AFTER COMPACTION.

COVER ENTIRE PLANT POCKET AREA WITH 4" MULCH AS SHOWN.



PERENNIAL PLANTS

FIRST AND SECOND WATERING AND CULTIVATION SHALL INCLUDE PERENNIAL BEDS.

PERENNIALS ARE TO BE FULLY DEVELOPED TWO YEAR #2 CONTAINER PLANTS.

ENTIRE PERENNIAL BED SHALL BE EXCAVATED DOWN 12" AND REPLACED WITH 12" OF PREPARED SOIL.

PERENNIAL BEDS ARE TO BE PAID FOR BY THE PAY ITEM 'SITE PREPARATION'.

SEEDING NOTES:

THIS STANDARD ILLUSTRATES THE TYPICAL USE OF SEEDING WITH MULCH, AS THESE ITEMS RELATE TO ROADWAY CONSTRUCTION. THE ACTUAL DESIGN AND MATERIALS USED TO CONSTRUCT THE COMPLETE SECTION, WHICH INCLUDES SEEDING WITH MULCHING, WILL BE ACCORDING TO THE PLANS AND CURRENT SPECIFICATIONS.

ITEMS CALLED FOR ON THIS STANDARD MAY ALSO BE USED DURING CONSTRUCTION AS AN EROSION CONTROL MEASURE. SEE STANDARD PLAN R-96-SERIES.

ALL DITCHES SHOULD HAVE HIGH VELOCITY MULCH BLANKET FOR EROSION CONTROL.

THE FIRST 8' BEHIND THE CURB OR SHOULDER IN URBAN MEDIAN AREAS WILL BE SEEDED, FERTILIZED, AND MULCHED WITH MULCH BLANKET. THE REMAINING AREAS WILL BE SEEDED, FERTILIZED, AND MULCHED WITH MULCH BLANKET OR STANDARD MULCH ANCHORED IN PLACE WITH A MULCH ADHESIVE OR WITH A MULCH NET.

ALL AREAS WHERE MULCH BLANKET IS CALLED FOR SHALL BE SEEDED, FERTILIZED, AND TOPSOILED AS SPECIFIED ON PLANS. NO MULCH OR ANCHORING MULCH IS REQUIRED WHERE MULCH BLANKET IS INSTALLED.

BACKSLOPE RESTORATION TREATMENT SHALL BE THE SAME AS THE FRONT SLOPE.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SEEDING AND TREE PLANTING

F.H.W.A. APPROVAL

8-3-2021
PLAN DATE

R-100-I

SHEET
4 OF 4

NOTICE TO BIDDERS - INQUIRY

All inquiries concerning the plans and proposal for this project are to be directed to:

Rita Levine

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: **MI20230001 11/03/2023**

Superseded General Decision Number: MI20220001

State: Michigan

Construction Types: Highway (Highway, Airport & Bridge xxxxx and Sewer/Incid. to Hwy.)

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: 	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: 	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the

Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	02/03/2023
2	02/17/2023
3	03/17/2023
4	05/12/2023
5	05/19/2023
6	05/26/2023
7	07/21/2023
8	08/25/2023
9	09/29/2023
10	10/06/2023
11	10/20/2023
12	11/03/2023

CARP0004-004 06/01/2019

REMAINDER OF STATE

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 27.62	20.59

CARP0004-005 06/01/2018

LIVINGSTON (Townships of Brighton, Deerfield, Genoa, Hartland, Oceola & Tyrone), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 30.50	27.28

ELEC0017-005 06/01/2023

STATEWIDE

	Rates	Fringes
Line Construction		

Groundman/Driver.....	\$ 29.24	7.20+32%
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers.	\$ 52.02	7.20+32%
Journeyman Specialist.....	\$ 53.83	32%+7.20
Operator A.....	\$ 37.13	7.20+32%
Operator B.....	\$ 34.67	7.20+32%

Classifications

Journeyman Specialist: Refers to a crew of only one person working alone.

Operator A: Shall be proficient in operating all power equipment including: Backhoe, Excavator, Directional Bore and Boom/Digger truck.

Operator B: Shall be proficient in operating any 2 of the above mentioned pieces of equipment listed under Operator A.

ENGI0324-003 06/01/2023

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LENAWEE, LIVINGSTON, MACOMB, MIDLAND, MONROE, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLAIR, SANILAC, SHIAWASSEE, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 54.02	25.25
GROUP 3.....	\$ 51.52	25.25
GROUP 4.....	\$ 52.52	25.25
GROUP 5.....	\$ 50.02	25.25
GROUP 6.....	\$ 51.02	25.25
GROUP 7.....	\$ 49.75	25.25
GROUP 8.....	\$ 50.75	25.25
GROUP 9.....	\$ 49.30	25.25
GROUP 10.....	\$ 50.30	25.25
GROUP 11.....	\$ 48.57	25.25
GROUP 12.....	\$ 49.57	25.25
GROUP 13.....	\$ 48.21	25.25
GROUP 14.....	\$ 49.21	25.25
GROUP 15.....	\$ 47.57	25.25
GROUP 16.....	\$ 44.37	25.25

GROUP 17.....	\$ 28.89	12.40
GROUP 18.....	\$ 33.38	25.25

FOOTNOTE:

Paid Holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Engineer when operating combination of boom and jib 400' or longer

GROUP 2: Engineer when operating combination of boom and jib 400' or longer on a crane that requires an oiler

GROUP 3: Engineer when operating combination of boom and jib 300' or longer

GROUP 4: Engineer when operating combination of boom and jib 300' or longer on a crane that requires an oiler

GROUP 5: Engineer when operating combination of boom and jib 220' or longer

GROUP 6: Engineer when operating combination of boom and jib 220' or longer on a crane that requires an oiler

GROUP 7: Engineer when operating combination of boom and jib 140' or longer

GROUP 8: Engineer when operating combination of boom and jib 140' or longer on a crane that requires an oiler

GROUP 9: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level)

GROUP 10: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level) on a crane that requires an oiler

GROUP 11: Engineer when operating combination of boom and jib 120' or longer

GROUP 12: Engineer when operating combination of boom and jib 120' or longer on a crane that requires an oiler

GROUP 13: Crane operator; job mechanic and 3 drum hoist and

excavator

GROUP 14: Crane operator on a crane that requires an oiler

GROUP 15: Hoisting operator; 2 drum hoist and rubber tired backhoe

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

ENGI0324-004 06/01/2023

AREA 1: ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, EATON, HILLSDALE, IONIA, KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN

AREA 2: ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE AND WEXFORD COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment		
(Steel Erection)		
AREA 1		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 49.75	25.25
GROUP 3.....	\$ 48.21	25.25
GROUP 4.....	\$ 44.37	25.25
GROUP 5.....	\$ 28.89	12.40
GROUP 6.....	\$ 33.38	25.25
AREA 2		
GROUP 1.....	\$ 53.02	25.25
GROUP 2.....	\$ 49.75	24.25
GROUP 3.....	\$ 48.21	25.25
GROUP 4.....	\$ 44.37	25.25
GROUP 5.....	\$ 28.89	12.40
GROUP 6.....	\$ 33.38	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: \$3.00 additional to the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Crane Operator with main boom & jib 400', 300', or 220' or longer.

GROUP 2: Crane Operator with main boom & jib 140' or longer, Tower Crane; Gantry Crane; Whirley Derrick.

GROUP 3: Regular Equipment Operator, Crane, Dozer, Loader, Hoist, Straddle Wagon, Mechanic, Grader and Hydro Excavator.

GROUP 4: Air Tugger (single drum), Material Hoist Pump 6" or over, Elevators, Brokk Concrete Breaker.

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender

* ENGI0324-005 09/01/2023

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.....	\$ 41.08	25.25
GROUP 2.....	\$ 36.25	25.25
GROUP 3.....	\$ 35.52	25.25

GROUP 4.....	\$ 34.95	25.25
GROUP 5.....	\$ 25.35	12.10
AREA 2:		
GROUP 1.....	\$ 39.27	25.25
GROUP 2.....	\$ 34.38	25.25
GROUP 3.....	\$ 33.88	25.25
GROUP 4.....	\$ 33.60	25.25
GROUP 5.....	\$ 25.35	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 06/01/2023

GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW, WAYNE, ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
Power equipment operators: (AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION)		
GROUP 1.....	\$ 40.46	25.25
GROUP 2.....	\$ 37.73	25.25
GROUP 3.....	\$ 33.17	25.55
GROUP 4.....	\$ 33.00	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt plant operator; Crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel operator; Locomotive operator; Paver operator (5 bags or more); Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Slip form paver; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Endloader operator (1 yd. capacity and over); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300 amp. or larger); Shouldering or gravel distributing machine

operator (self- propelled); Backhoe (with over 3/8 yd. bucket); Side boom tractor (type D-4 or equivalent or larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt paver (self- propelled); Asphalt planer (self-propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan; Vacuum truck operator; Batch Plant (concrete dry batch); Concrete Saw Operator (40h.p. or over; Tractor Operator (farm type); Finishing Machine Operator (concrete); Grader Operator (self-propelled fine grade or form (concrete)).

GROUP 2: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Greese Truck; Air Compressor Operator (600 cu.ft. per min or more); Air Compressor Operator (two or more, less than 600 cfm);

GROUP 3: Boiler fire tender; Tractor operator (farm type with attachment); Concrete Breaker; Wagon Drill Operator;

GROUP 4: Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Boom or winch hoist truck operator; Endloader operator *under 1 yd. capacity); Roller Operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self-propelled); End dump; Skid Steer.

ENGI0324-007 05/01/2023

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
Compressor, welder and forklift.....	\$ 38.50	25.00
Crane operator, main boom		

& jib 120' or longer.....	\$ 44.97	25.00
Crane operator, main boom		
& jib 140' or longer.....	\$ 44.17	24.60
Crane operator, main boom		
& jib 220' or longer.....	\$ 45.27	25.00
Mechanic with truck and		
tools.....	\$ 44.10	25.00
Oiler and fireman.....	\$ 39.96	25.00
Regular operator.....	\$ 42.32	25.00

ENGI0324-008 10/01/2022

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment		
(Sewer Relining)		
GROUP 1.....	\$ 35.37	14.77
GROUP 2.....	\$ 33.33	14.77

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system, including remote in-ground cutter and other equipment used in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation systems, water jetters and vacuum and mechanical debris removal systems

ENGI0325-012 05/01/2023

	Rates	Fringes
Power equipment operators -		
gas distribution and duct		

installation work:

GROUP 1.....	\$ 36.18	25.25
GROUP 2.....	\$ 33.45	25.25

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as "distribution work," starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service). Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

IRON0008-007 06/01/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector.....	\$ 23.70	6.95
IRONWORKER		
General contracts		
\$10,000,000 or greater.....	\$ 38.14	28.70
General contracts less than \$10,000,000.....	\$ 38.14	28.70

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0025-002 06/01/2023

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON,
CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO,
ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOMB, MIDLAND,
MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE,
ROSCOMMON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, TUSCOLA,
WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:..\$ 24.59		25.43
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw (east of U.S. 23) & Wayne...\$ 25.81		26.43
IRONWORKER		
Ornamental and Structural...\$ 34.50		38.44
Reinforcing.....\$ 32.68		35.15

IRON0055-005 07/01/2022

LENAWEE AND MONROE COUNTIES:

	Rates	Fringes
IRONWORKER		
Pre-engineered metal buildings.....\$ 23.59		19.35
All other work.....\$ 33.00		27.20

IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector).....	\$ 31.75	22.84

LAB00005-006 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
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Work performed in
 conjunction with site
 preparation not requiring
 the use of personal
 protective equipment;

Also, Level D.....\$ 20.80	12.90
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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
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Work performed in
 conjunction with site
 preparation not requiring
 the use of personal
 protective equipment;

Also, Level D.....\$ 20.80	12.90
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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
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Work performed in
 conjunction with site
 preparation not requiring
 the use of personal
 protective equipment;

Also, Level D.....\$ 24.64	12.90
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Laborers - hazardous waste
 abatement: (GENESEE, LAPEER
 AND SHIAWASSEE COUNTIES -
 Zone 7)

Levels A, B or C.....\$ 24.20	13.80
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Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 23.20	13.80
Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEЕ COUNTIES - Zone 4)		
Levels A, B or C.....	\$ 27.13	14.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.17	12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)		
Levels A, B or C.....	\$ 29.93	14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)		
Levels A, B or C.....	\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)		
Levels A, B or C.....	\$ 31.75	14.90
Work performed in conjunction with site preparation not requiring the use of personal		

protective equipment;		
Also, Level D.....	\$ 31.75	14.90
Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)		
Level A, B, C.....	\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	16.90
Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)		
Levels A, B or C.....	\$ 26.21	16.62
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.75	16.35

LABO0259-001 09/01/2023

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES
 AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND
 TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
 IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
 KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,
 MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE,
 MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON,
 NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO,
 OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST.
 JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN,
 WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		

GROUP 1.....	\$ 23.62	16.93
GROUP 2.....	\$ 23.73	16.93
GROUP 3.....	\$ 23.79	16.93
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.....	\$ 27.57	16.93
GROUP 2.....	\$ 25.24	16.93
GROUP 3.....	\$ 25.34	16.93
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, aquifers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or

mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LABO0334-001 09/01/2022

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1.....	\$ 23.47	16.72
GROUP 2.....	\$ 23.58	16.72
GROUP 3.....	\$ 23.63	16.72
GROUP 4.....	\$ 23.71	16.72
GROUP 5.....	\$ 24.17	16.72
GROUP 6.....	\$ 22.00	16.72
GROUP 7.....	\$ 17.84	16.72
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1.....	\$ 25.20	16.72
GROUP 2.....	\$ 24.91	16.72
GROUP 3.....	\$ 25.03	16.72
GROUP 4.....	\$ 25.10	16.72
GROUP 5.....	\$ 25.25	16.72
GROUP 6.....	\$ 22.55	16.72
GROUP 7.....	\$ 22.11	16.72
ZONE 3 - CLINTON, EATON, GENESEE, HILLSDALE AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); JACKSON, LAPEER AND LENAWEE COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1.....	\$ 23.39	16.72
GROUP 2.....	\$ 23.13	16.72
GROUP 3.....	\$ 23.25	16.72
GROUP 4.....	\$ 23.30	16.72

GROUP 5.....	\$ 23.44	16.72
GROUP 6.....	\$ 20.74	16.72
GROUP 7.....	\$ 22.23	16.72
ZONE 4 - ALCONA, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT AND HURON COUNTIES; IONIA COUNTY (EXCEPT THE CITY OF PORTLAND); IOSCO, ISABELLA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES:		
GROUP 1.....	\$ 22.42	16.72
GROUP 2.....	\$ 22.15	16.72
GROUP 3.....	\$ 22.26	16.72
GROUP 4.....	\$ 22.33	16.72
GROUP 5.....	\$ 22.45	16.72
GROUP 6.....	\$ 19.67	16.72
GROUP 7.....	\$ 22.30	16.72
ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:		
GROUP 1.....	\$ 22.24	16.72
GROUP 2.....	\$ 22.38	16.72
GROUP 3.....	\$ 22.51	16.72
GROUP 4.....	\$ 22.56	16.72
GROUP 5.....	\$ 22.64	16.72
GROUP 6.....	\$ 19.99	16.72

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 crotch, 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.

LAB00465-001 06/01/2023

LABORER: Highway, Bridge and Airport Construction

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA AND VAN BUREN COUNTIES

AREA 3: ALCONA, ALPENA, ANTRIM, ARENAC, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, IONIA, IOSCO, ISABELLA, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MONTMORENCY, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON AND WEXFORD COUNTIES

AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1.....	\$ 29.67	13.45
GROUP 2.....	\$ 29.88	13.45
GROUP 3.....	\$ 30.17	13.45
GROUP 4.....	\$ 30.61	13.45
GROUP 5.....	\$ 30.23	13.45
GROUP 6.....	\$ 30.66	13.45
LABORER (AREA 2)		
GROUP 1.....	\$ 26.92	12.90

GROUP 2.....	\$ 27.12	12.90
GROUP 3.....	\$ 27.36	12.90
GROUP 4.....	\$ 27.71	12.90
GROUP 5.....	\$ 27.58	12.90
GROUP 6.....	\$ 27.92	12.90
LABORER (AREA 3)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90
LABORER (AREA 4)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.); joint filling laborer; miscellaneous laborer; unskilled laborer; sprinkler laborer; form setting laborer; form stripper; pavement reinforcing; handling and placing (e.g., wire mesh, steel mats, dowel bars); mason's tender or bricklayer's tender on manholes; manhole builder; headwalls, etc.; waterproofing, (other than buildings) seal coating and slurry mix, shoring, underpinning; pressure grouting; bridge pin and hanger removal; material recycling laborer; horizontal paver laborer (brick, concrete, clay, stone and asphalt); ground stabilization and modification laborer; grouting; waterblasting; top person; railroad track and trestle laborer; carpenters' tender; guard rail builders' tender; earth retention barrier and wall and M.S.E. wall installer's tender; highway and median installer's tender (including sound, retaining, and crash barriers); fence erector's tender; asphalt raker tender; sign installer; remote control operated equipment.

GROUP 2: Mixer operator (less than 5 sacks); air or electric tool operator (jackhammer, etc.); spreader; boxperson (asphalt, stone, gravel); concrete paddler; power chain saw operator; paving batch truck dumper; tunnel mucker (highway work only); concrete saw (under 40 h.p.) and dry pack machine; roto-mill grounds person.

GROUP 3: Tunnel miner (highway work only); finishers tenders; guard rail builders; highway and median barrier installer; earth retention barrier and wall and M.S.E. wall installer's (including sound, retaining and crash barriers); fence erector; bottom person; powder person; wagon drill and air track operator; diamond and core drills; grade checker; certified welders; curb and side rail setter's tender.

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

GROUP 6: Line-form setter for curb or pavement; asphalt screed checker/screw man on asphalt paving machines.

LABO1076-005 04/01/2023

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1.....	\$ 25.17	13.32
Zone 2.....	\$ 24.22	13.45
Zone 3.....	\$ 21.60	13.45
Zone 4.....	\$ 20.97	13.43
Zone 5.....	\$ 21.00	13.40

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: \$.40 per hour above the base pay rate.

- Zone 1 - Macomb, Oakland and Wayne
- Zone 2 - Monroe and Washtenaw
- Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair

Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic,
Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette,
Menominee, Ontonagon and Schoolcraft
Zone 5 - Remaining Counties in Michigan

PAIN0022-002 07/01/2008

HILLSDALE, JACKSON AND LENAWEE COUNTIES; LIVINGSTON COUNTY
(east of the eastern city limits of Howell, not including the
city of Howell, north to the Genesee County line and south to
the Washtenaw County line); MACOMB, MONROE, OAKLAND, WASHTENAW
AND WAYNE COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for
spray work, also blowing off, \$0.80 per hour additional
(applies only to workers doing rigging for spray work on
off the floor work. Does not include setting up or moving
rigging on floor surfaces, nor does it apply to workers
engaged in covering up or tending spray equipment. For all
sandblasting and spray work performed on highway bridges,
overpasses, tanks or steel, \$0.80 per hour additional. For
all brushing, cleaning and other preparatory work (other
than spraying or steeplejack work) at scaffold heights of
fifty (50) feet from the ground or higher, \$0.50 per hour
additional. For all preparatorial work and painting
performed on open steel under forty (40) feet when no
scaffolding is involved, \$0.50 per hour additional. For all
swing stage work-window jacks and window belts-exterior and
interior, \$0.50 per hour additional. For all spray work and
sandblaster work to a scaffold height of forty (40) feet
above the floor level, \$0.80 per hour additional. For all
preparatorial work and painting on all highway bridges or
overpasses up to forty (40) feet in height, \$0.50 per hour
additional. For all steeplejack work performed where the
elevation is forty (40) feet or more, \$1.25 per hour
additional.

PAIN0312-001 06/01/2018

EXCLUDES: ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath,
Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel,
Salem, Saugatuck and Wayland); INCLUDES: Barry, Berrien,
Branch, Calhoun, Cass, Hillsdale, Kalamazoo, St. Joseph, Van
Buren

	Rates	Fringes
PAINTER		
Brush and roller.....	\$ 23.74	13.35
Spray, Sandblast, Sign		
Painting.....	\$ 24.94	13.35

PAIN0845-003 05/10/2018		

CLINTON COUNTY; EATON COUNTY (does not include the townships of Bellevue and Olivet); INGHAM COUNTY; IONIA COUNTY (east of Hwy. M 66); LIVINGSTON COUNTY (west of the eastern city limits of Howell, including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); AND SHIAWASSEE COUNTY (Townships of Bennington, Laingsbury and Perry):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

PAIN0845-015 05/10/2018		

MUSKEGON COUNTY; NEWAYGO COUNTY (except the Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OCEANA COUNTY; OTTAWA COUNTY (except the townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

PAIN0845-018 05/10/2018		

ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); IONIA COUNTY (west of Hwy. M-66); KENT, MECOSTA AND MONTCALM COUNTIES; NEWAYGO COUNTY (Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OSCEOLA COUNTY (south of Hwy. #10); OTTAWA COUNTY (Townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.

PAIN1011-003 06/02/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON,
IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON
AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 24.66	14.99

FOOTNOTES: High pay (bridges, overpasses, watertower): 30 to
80 ft.: \$.65 per hour additional. 80 ft. and over: \$1.30
per hour additional.

PAIN1474-002 06/01/2010

HURON COUNTY; LAPEER COUNTY (east of Hwy. M-53); ST. CLAIR,
SANILAC AND TUSCOLA COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 23.79	12.02

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.
Work with any hazardous material: \$1.00 per hour
additional. Sandblasting, steam cleaning and acid cleaning:
\$1.00 per hour additional. Ladder work at or above 40 ft.,
scaffold work at or above 40 ft., swing stage, boatswain
chair, window jacks and all work performed over a falling
height of 40 ft.: \$1.00 per hour additional. Spray gun
work, pick pullers and those handling needles, blowing off
by air pressure, and any person rigging (setting up and
moving off the ground): \$1.00 per hour additional.
Steeplejack, tanks, gas holders, stacks, flag poles, radio
towers and beacons, power line towers, bridges, etc.: \$1.00
per hour additional, paid from the ground up.

PAIN1803-003 06/01/2019

ALCONA, ALPENA, ANTRIM, ARENAC, BAY, BENZIE, CHARLEVOIX,
CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE,
GRATIOT, IOSCO, ISABELLA, KALKASKA, LAKE, LEELANAU, MANISTEE,
MASON, MIDLAND, MISSAUKEE, MONTMORENCY AND OGEMAW COUNTIES;
OSCEOLA COUNTY (north of Hwy. #10); OSCODA, OTSEGO, PRESQUE
ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES:

	Rates	Fringes
PAINTER		
Work performed on water, bridges over water or moving traffic, radio and powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants.....	\$ 25.39	14.68
All other work, including maintenance of industrial plant.....	\$ 25.39	14.68

FOOTNOTES: Spray painting, sandblasting, blowdown associated with spraying and blasting, water blasting and work involving a swing stage, boatswain chair or spider: \$1.00 per hour additional. All work performed inside tanks, vessels, tank trailers, railroad cars, sewers, smoke stacks, boilers or other spaces having limited egress not including buildings, opentop tanks, pits, etc.: \$1.25 per hour additional.

PLAS0514-001 06/01/2018

ZONE 1: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES

ZONE 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
ZONE 1.....	\$ 31.47	13.81

ZONE 2.....\$ 29.97

13.81

PLUM0190-003 05/01/2015

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY,
BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND
TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,
MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA,
MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE,
MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA,
OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST.
CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA,
VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
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 06/01/2020

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE,
GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO,
IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,
LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE,
MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE,
MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW,
ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE,
ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST.
CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW
AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER		
AREA 1		
Euclids, double bottoms		

and lowboys.....	\$ 28.05	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.80	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 27.90	.50 + a+b
AREA 2		
Euclids, double bottomms and lowboys.....	\$ 24.895	.50 + a+b
Euclids, double bottoms and lowboys.....	\$ 28.15	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.90	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 28.00	.50 + a+b

Footnote:

a. \$470.70 per week

b. \$68.70 daily

TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1.....	\$ 21.78	11.83
GROUP 2.....	\$ 25.27	11.8375
AREA 2		
GROUP 1.....	\$ 22.03	11.83
GROUP 2.....	\$ 25.02	11.8375

FOOTNOTE:

a. \$132.70 per week, plus \$17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1.....	\$ 23.82	19.04
GROUP 2.....	\$ 23.91	19.04
GROUP 3.....	\$ 24.12	19.04
AREA 2		
GROUP 1.....	\$ 24.12	19.04
GROUP 2.....	\$ 24.26	19.04
GROUP 3.....	\$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

* SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person.....	\$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)		
	\$ 22.89	13.45
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)		
	\$ 20.19	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES)		
Group 1.....	\$ 30.52	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)		
Group 2.....	\$ 27.47	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES)		
Group 1.....	\$ 26.92	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)		
Group 2.....	\$ 24.23	13.45

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted striper, grinder, blaster, groover, or thermoplastic melter for the placement or removal of temporary or permanent pavement markings or markers.

PAVEMENT MARKER GROUP 2: Performs all functions involved for the placement or removal of temporary or permanent pavement markings or markers not covered by the classification of Pavement Marker Group 1 or Line Protector.

LINE PROTECTOR: Performs all operations for the protection or removal of temporary or permanent pavement markings or markers in a moving convoy operation not performed by the classification of Pavement Marker Group 1. A moving convoy operation is comprised of only Pavement Markers Group 1 and Line Protectors.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO

is available at
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates

the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

"General Decision Number: **MI20230033 11/03/2023**

Superseded General Decision Number: MI20220033

State: Michigan

Construction Type: Heavy

County: Chippewa County in Michigan.

Heavy, Includes Water, Sewer Lines and Excavation (Excludes Hazardous Waste Removal; Coal, Oil, Gas, Duct and other similar Pipeline Construction)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: 	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: 	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	04/07/2023
2	05/26/2023
3	06/02/2023
4	08/04/2023
5	09/01/2023
6	10/06/2023
7	10/27/2023
8	11/03/2023

BRMI0006-002 05/01/2023

	Rates	Fringes
BRICKLAYER.....	\$ 32.79	24.30

CARP1510-002 06/01/2021

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 27.13	21.00

ELEC1070-003 06/01/2016

	Rates	Fringes
ELECTRICIAN		
Contracts \$135,000 and under.....	\$ 31.44	18.59
Contracts over \$135,000.....	\$ 33.44	18.67

* ENGI0325-021 09/01/2023

POWER EQUIPMENT OPERATORS: Underground Construction (Including Sewer)

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 39.27	25.25

GROUP 2.....	\$ 34.38	25.25
GROUP 3.....	\$ 33.88	25.25
GROUP 4.....	\$ 33.60	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backhoe/ Excavator, Boring Machine, Bulldozer, Crane, Scraper, Loader, Trencher (over 8 ft. digging capacity)

GROUP 2: Trencher (8-ft digging capacity and smaller)

GROUP 3: Boom Truck (non-swinging, non- powered type boom)

GROUP 4: Broom/ Sweeper, Fork Truck, Tractor

ENGI0326-006 05/01/2023

EXCLUDES UNDERGROUND CONSTRUCTION

	Rates	Fringes
OPERATOR: Power Equipment		
Crane, main boom & jib		
120' or longer.....	\$ 39.01	25.00
Crane, main boom & jib		
140' or longer.....	\$ 39.83	25.00
Crane, main boom & jib		
220' or longer.....	\$ 39.83	25.00
GROUP 1 -		
Backhoe/Excavator;		
Bulldozer; Crane;		
Compactor; Scraper; Loader..	\$ 35.71	25.00
GROUP 2 - Boom truck (non-		
swing).....	\$ 32.46	25.00
GROUP 3 - Oiler.....		
	\$ 31.06	12.50

FOOTNOTES: Premium rate: main boom and jib 300 feet or longer is \$1.50 per hour above the 220 ft. boom and jib rate. Main boom and jib 400 feet or longer is \$3.00 per hour above the 220 ft. boom and jib rate.

IRON0008-009 06/01/2023

	Rates	Fringes
IRONWORKER, REINFORCING AND		
STRUCTURAL		

Contracts \$10,000,000 or greater.....	\$ 39.17	30.42
Contracts less than \$10,000,000.....	\$ 39.17	30.43

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

LABO0334-002 09/01/2018

SCOPE OF WORK:

OPEN CUT CONSTRUCTION: Excavation of earth and sewer, utilities, and improvements, including underground piping/conduit (including inspection, cleaning, restoration, and relining)

	Rates	Fringes
LABORER		
(1) Common or General.....	\$ 21.19	12.85
(2) Mason Tender-Cement/Concrete.....	\$ 21.33	12.85
(4) Grade Checker.....	\$ 21.51	12.85
(5) Pipelayer.....	\$ 21.56	12.85

LABO1329-002 05/01/2023

EXCLUDES OPEN CUT CONSTRUCTION

	Rates	Fringes
LABORER		
Common or General; Mason Tender - Cement/Concrete....	\$ 31.99	12.95
Pipelayer.....	\$ 30.09	12.95

PLAS0016-035 04/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 20.17	10.13

PLUM0111-009 05/27/2019

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 34.48	25.18

TEAM0007-010 06/01/2023

	Rates	Fringes
TRUCK DRIVER		
Lowboy/Semi-Trailer Truck...	\$ 31.55	.75 + a+b

FOOTNOTE:

- a. \$470.70 per week.
- b. \$68.70 daily.

* SUMI2010-031 11/09/2010

	Rates	Fringes
LABORER: Landscape.....	\$ 10.89 **	1.74
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 12.98 **	6.12
OPERATOR: Grader/Blade.....	\$ 16.63	5.85
OPERATOR: Roller.....	\$ 13.74 **	7.93
TRUCK DRIVER: Dump Truck.....	\$ 12.63 **	1.25

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 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information

on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"