MDOT
Michigan Department of Transportation

2020 Standard Specifications for Construction

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

ITEM NUMBER
2205 042

STATE OF MICHIGAN DEPARTMENT OF TRANSPORTATION

PROPOSAL

0.46 mi of brick pavement roadway reconstruction, storm sewer, concrete curb, gutter, sidewalk and ramps, signing and pavement markings on Saginaw Street from the Flint River to Court Street in the city of Flint, Genesee County. This is a Local Agency project.

BIDS WILL BE ELECTRONICALLY DOWNLOADED AT 10:30 AM LOCAL TIME, ON 5/6/22

CONTRACT ID	CONTROL SECTION		PROJECT	FEDERAL NUMBER
25000-130632	STU	25000	130632A	22A0437

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.

Davison TSC

Schedule of Items

Report v1

Proposal ID: 25000-130632 **Project(s):** 130632A

Letting Number: 220506 **Call Number:** 042

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	1077060 - _Reimbursed Permit Fees	600.000 Dlr	$1.00	$600.00
0010	1100001 - Mobilization, Max$479,500.00	1.000 LSUM		
0015	2027050 - _Tree Grate, Rem	70.000 Ea		
0020	2030011 - Dr Structure, Rem	34.000 Ea		
0025	2030015 - Sewer, Rem, Less than 24 inch	950.000 Ft		
0030	2037001 - _Abandon Utility, Rem, 8 inch	1,000.000 Ft		
0035	2040020 - Curb and Gutter, Rem	1,700.000 Ft		
0040	2040021 - Curb, Rem	3,600.000 Ft		
0045	2040055 - Sidewalk, Rem	7,600.000 Syd		
0050	2047011 - _Pavt, Rem, Modified	18,000.000 Syd		
0055	2047011 - _Roadway Brick Pavers, Rem and Salv	16,300.000 Syd		
0060	2050016 - Excavation, Earth	6,800.000 Cyd		
0065	2050031 - Non Haz Contaminated Material Handling and Disposal, LM	200.000 Cyd		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0070	2050041 - Subgrade Undercutting, Type II	3,000.000 Cyd		
0075	2080020 - Erosion Control, Inlet Protection, Fabric Drop	31.000 Ea		
0080	3010002 - Subbase, CIP	9,000.000 Cyd		
0085	3017021 - _Subbase, 1 inch, Special	500.000 Cyd		
0090	3020020 - Aggregate Base, 8 inch	16,500.000 Syd		
0095	3060020 - Maintenance Gravel	500.000 Ton		
0100	3080005 - Geotextile, Separator	16,200.000 Syd		
0105	4020033 - Sewer, Cl A, 12 inch, Tr Det B	960.000 Ft		
0110	4030005 - Dr Structure Cover, Adj, Case 1	2.000 Ea		
0115	4030010 - Dr Structure Cover, Type B	7.000 Ea		
0120	4030025 - Dr Structure Cover, Type D	2.000 Ea		
0125	4030050 - Dr Structure Cover, Type K	23.000 Ea		
0130	4030200 - Dr Structure, 24 inch dia	17.000 Ea		
0135	4030210 - Dr Structure, 48 inch dia	15.000 Ea		
0140	4030280 - Dr Structure, Adj, Add Depth	5.000 Ft		
0145	4040063 - Underdrain, Subbase, 6 inch	5,000.000 Ft		
0150	5010031 - HMA, 3C	225.000 Ton		
0155	5010032 - HMA, 4C	50.000 Ton		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0160	6020104 - Conc Pavt, Nonreinf, 8 inch	2,200.000 Syd		
0165	6027011 - _Decorative Conc, Surface, 8 inch	1,410.000 Syd		
0170	7100001 - Joint Waterproofing	400.000 Sft		
0175	8020004 - Curb, Conc, Det E4	3,610.000 Ft		
0180	8020038 - Curb and Gutter, Conc, Det F4	1,050.000 Ft		
0185	8030030 - Curb Ramp Opening, Conc	600.000 Ft		
0190	8030044 - Sidewalk, Conc, 4 inch	70,000.000 Sft		
0195	8032002 - Curb Ramp, Conc, 6 inch	5,160.000 Sft		
0200	8037001 - _Detectable Warning Surface, Modified	585.000 Ft		
0205	8037010 - _Conc Door Foundation, Special	400.000 Sft		
0210	8037010 - _Sidewalk Brick Pavers, Rem, Salv, and Reinstall	1,000.000 Sft		
0215	8037011 - _Roadway Brick Pavers, Install from Off Site Source	4,300.000 Syd		
0220	8037011 - _Roadway Brick Pavers, Install from On Site Source	9,700.000 Syd		
0225	8100371 - Post, Steel, 3 lb	350.000 Ft		
0230	8100402 - Sign, Type III, Erect, Salv	10.000 Ea		
0235	8100403 - Sign, Type III, Rem	80.000 Ea		
0240	8100405 - Sign, Type IIIB	130.000 Sft		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0245	8110093 - Pavt Mrkg, Polyurea, 6 inch, Crosswalk	2,000.000 Ft		
0250	8110114 - Pavt Mrkg, Polyurea, 24 inch, Stop Bar	350.000 Ft		
0255	8110231 - Pavt Mrkg, Waterborne, 4 inch, White	4,600.000 Ft		
0260	8110232 - Pavt Mrkg, Waterborne, 4 inch, Yellow	5,200.000 Ft		
0265	8110251 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White	4,600.000 Ft		
0270	8110252 - Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow	5,200.000 Ft		
0275	8110405 - Pavt Mrkg, Polyurea, Lt Turn Arrow Sym	9.000 Ea		
0280	8110412 - Pavt Mrkg, Polyurea, Rt Turn Arrow Sym	2.000 Ea		
0285	8120012 - Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	8.000 Ea		
0290	8120013 - Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	8.000 Ea		
0295	8120026 - Pedestrian Type II Barricade, Temp	8.000 Ea		
0300	8120035 - Channelizing Device, 42 inch, Fluorescent, Furn	100.000 Ea		
0305	8120036 - Channelizing Device, 42 inch, Fluorescent, Oper	100.000 Ea		
0310	8120140 - Lighted Arrow, Type C, Furn	4.000 Ea		
0315	8120141 - Lighted Arrow, Type C, Oper	4.000 Ea		

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0320	8120170 - Minor Traf Devices	1.000 LSUM		
0325	8120210 - Pavt Mrkg, Longit, 6 inch or Less Width, Rem	2,500.000 Ft		
0330	8120245 - Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	5,000.000 Ft		
0335	8120246 - Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	5,000.000 Ft		
0340	8120252 - Plastic Drum, Fluorescent, Furn	20.000 Ea		
0345	8120253 - Plastic Drum, Fluorescent, Oper	20.000 Ea		
0350	8120310 - Sign Cover	20.000 Ea		
0355	8120350 - Sign, Type B, Temp, Prismatic, Furn	600.000 Sft		
0360	8120351 - Sign, Type B, Temp, Prismatic, Oper	600.000 Sft		
0365	8120352 - Sign, Type B, Temp, Prismatic, Spec, Furn	200.000 Sft		
0370	8120353 - Sign, Type B, Temp, Prismatic, Spec, Oper	200.000 Sft		
0375	8157050 - _Bench, Reinstall	4.000 Ea		
0380	8157050 - _Bench, Rem and Salv	4.000 Ea		
0385	8157050 - _Parking Meter Sensor, Reinstall	140.000 Ea		
0390	8157050 - _Parking Meter Sensor, Rem and Salv	140.000 Ea		
0395	8157050 - _Parking Meter, Reinstall	90.000 Ea		

Schedule of Items Report v1

Item Prices

Proposal Line Number	Item ID - Description	Approximate Quantity and Units	Unit Price	Bid Amount
0400	8157050 - _Parking Meter, Rem and Salv	90.000 Ea		
0405	8157050 - _Trash Receptacle, Reinstall	23.000 Ea		
0410	8157050 - _Trash Receptacle, Rem and Salv	23.000 Ea		
0415	8157050 - _Tree Grate, Install, Special	70.000 Ea		
0420	8230411 - Gate Box, Reconst, Case 1	50.000 Ea		

Section 1 Total:

Total Bid:

Schedule Of Items - Blank Schedule of Items

Report v1

Proposal ID: 25000-130632 **Project(s):** 130632A

Letting Number: 220506 **Call Number:** 042

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:	

DESIGNATED and SPECIALTY ITEMS

Designated Items:

COMPANY NAME AND ADDRESS OF PREQUALIFIED SUBCONTRACTOR DOING WORK:

(Ea) Grading, Drainage Structures, and Aggregate Construction

_____
(COMPANY NAME)

(J) Miscellaneous Concrete Items

_____
(COMPANY NAME)

(N9-6N) Paving Brick

_____
(COMPANY NAME)

_____
(COMPANY NAME)

_____
(COMPANY NAME)

Specialty Items:

_____
(COMPANY NAME)

_____
(COMPANY NAME)

SEE NEXT PAGE FOR INFORMATION ON COMPLETING THIS PAGE

INFORMATION ON COMPLETION OF DESIGNATED AND SPECIALTY ITEMS PAGE

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

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

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

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

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

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

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

Rev. (3/22)

Table of Contents

Letting of: 220506

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

Call Number	Contract ID	Control Section	Project Number	Federal Project Number
042	25000-130632	STU 25000	130632A	22A0437

Description: 0.46 mi of brick pavement roadway reconstruction, storm sewer, concrete curb, gutter, sidewalk and ramps, signing and pavement markings on Saginaw Street from the Flint River to Court Street in the city of Flint, Genesee County. This is a Local Agency project.

Required DBE Participation: 5.00%

Net Classification Required For This Project: ** 5274 Ea or 5274 N9-6N **

Estimated Pages For Plans: 35

Completion Date: 11/17/2023

In addition to the above minimum prequalification requirement for prime contractors this project includes a subclassification of Ea, J, and N9-6N. 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: 4/8/2022

See proposal for bidder guaranty information.

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

PROGRESS CLAUSE

The Engineer anticipates that construction can begin no earlier than 10 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 project must be completely open to traffic by the open to traffic date of **October 23, 2023**.

The entire project must be completed by the final completion date of **November 17, 2023**.

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 open to traffic and/or final completion dates will result in the assessment of liquidated damages in accordance with subsection 108.10 of the 2020 MDOT Standard Specifications for Construction.

GENESEE COUNTY DRAIN COMMISSIONER'S OFFICE
- DIVISION OF -
WATER & WASTE SERVICES
G-4610 BEECHER ROAD - FLINT, MICHIGAN 48532-2617
PHONE (810) 732-7870 - FAX (810) 732-9773

JEFFREY WRIGHT
COMMISSIONER

March 1, 2022

City of Flint
Attn: Mark Adas
1101 S Saginaw St, North Building
Flint, MI 48502

RE: Soil Erosion and Sediment Control (SESC) Permit (L22-036)
Saginaw St Rehabilitation-Court St to Flint River
City of Flint

This office has completed the review of the above-referenced SESC application. The application can be conditionally approved at this time. The following items are needed for SESC permit issuance:

1. The on-site responsible Party contact information.
2. Submit 2 additional copies of the approved SESC plan.
3. Provide a PDF copy of the SESC plan.
4. Pay the SESC Fee. The SESC fee is $600.00. The permit is for 6 months.
5. Submit a $15,000 cash or original surety bond. The bond will be kept in effect until such time as the project has been released by this office. Please utilize the bond form from our webpage.

If you have any questions regarding the above, please contact this office at (810) 732-7870 or by e-mail at c_webster@gcdcwws.com.

Sincerely,

Cliff Webster
SESC/GIS Technician

CC: SESC file

CITY OF FLINT

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

COF:WTI 1 of 7 2-11-2022

a. Description. This work consists of all labor, materials, and equipment required to maintain traffic in accordance with this special provision for the work described within the plans including roadway brick paver reconstruction, sidewalk and ramp replacements, pavement marking, and signing in the City of Flint in Genesee County.

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

The project will be full roadway closures with detour routes based on the information provided below and in the plans. The Contractor shall maintain local traffic and access to local businesses at all times throughout the project in accordance with Sections 104 and 812 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, including any supplemental specifications and as specified herein.

1. The Contractor shall notify the Engineer and the City's traffic control contact Rodney McGaha at 810-766-7135 (office) or 810-691-3106 (cell) three (3) full working days prior to implementation of each road closure, lane closure, and traffic shift.

2. The Contractor shall coordinate their operations with other Contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA). There will be no additional compensation for any coordination required with other projects. The Contractor's attention is directed to Section 104.08 of the MDOT 2020 Standard Specifications for Construction.

    a. Work shall be coordinated with franchise utilities for adjustments, relocations and replacements of facilities within the project limits.

3. Notification to police, emergency vehicles, public transportation and others will be made by the City of Flint.

4. City of Flint shall coordinate construction activities with the local business owners and ensure that privately owned items, including but not furniture and plantings, are removed from the construction area.

5. Once work is initiated, that work shall be continuous until completed by phase. Contractor will not be permitted to begin construction in the subsequent phase until current phase is complete and approved by Engineer.

6. All local noise and dust control ordinance shall apply to this project.

7. Any debris deposited on the roadway or sidewalks by the Contractor, or his subcontractors, shall be removed immediately by the Contractor.

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

1. Saginaw Street from Court Street approximately 0.46 miles north to the south side of the bridge deck over the Flint River.

2. In addition, the CIA includes the right-of-way of any designated detour route and intersecting roads adjacent to the work zone for a distance of approximately 1/4 mile in advance of the work zone or as far as the construction or detour signing extends.

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

1. Access for emergency vehicles shall be maintained at all times.

2. Utilize Maintaining Traffic Typical 203-FW-1LC-(R) on Court Street

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

Table 1: 2022 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 p.m. Friday, May 27	6:00 a.m. Tuesday, May 31
Fourth of July	3:00 p.m. Friday, July 1	6:00 a.m. Tuesday, July 5
Labor Day	3:00 p.m. Friday, September 2	6:00 a.m. Tuesday, September 6
Thanksgiving	3:00 p.m. Wednesday, November 23	6:00 a.m. Monday, November 28

4. All work activity shall cease on July 29, 2022, and stage shall be open to traffic. No work shall be permitted from July 30, 2022, through August 31, 2022, to accommodate City Festivals.

5. No winter work is permitted. All construction activities shall cease on November 23, 2022. Construction activities shall reconvene on April 1, 2023.

6. Work shall be limited to between 7am and 7pm Monday to Friday unless otherwise approved by the Engineer. All work shall be conducted during day time hours only, but may be allowable outside of the day time hours at the discretion of the Engineer. Any additional cost for maintaining traffic during night time hours and additional equipment needed for night work shall be borne by the Contractor.

7. Obtain all necessary permits from local governments within areas of local jurisdiction, including noise/dust ordinance waivers when required, prior to placing construction signing on local roads. Refer to The Noise Control Ordinance of the City of Flint for additional information. The Department will reimburse permit costs in accordance with

Section 107 of the MDOT 2020 Standard Specification for Construction. Adhere to all requirements made by local maintaining agencies regarding placement of traffic control devices prior to closing lanes on roadways not under MDOT jurisdiction.

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

e. Traffic General.

1. Full roadway closure, with detour, shall be implemented for each stage as indicated on Maintenance of Traffic Plan.

2. Access for emergency vehicles shall be maintained at all times

3. No construction activities shall commence on successive stage until current stage is complete and open to traffic. Contractor shall obtain approval from Engineering prior to beginning next stage.

4. Develop and submit to the Engineer an Internal Traffic Control Plan (ITCP) per Section 104 of the MDOT 2020 Standard Specifications for Construction. Submit the ITCP at the preconstruction meeting. The Engineer will have seven calendar days to review the ITCP for approval or provide comments for revisions required to obtain approval. Include in the ITCP, at a minimum, the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the ITCP. Ensure that the ITCP minimizes conflicts between construction vehicles and motorists and maintains overall safety and mobility within the work zone. No work may begin prior to approval of the ITCP. Additional time required to obtain an approved ITCP will not be cause for delay or impact claims. All costs associated with obtaining an approved ITCP, providing and executing all parts of the approved ITCP including required traffic control devices, or resolving an incomplete or unacceptable ITCP will be borne by the Contractor.

5. Protect the work area at the end of each day. Close all open access points on the project to traffic with Type III barricades or other devices approved by the Engineer. Restore undercuts or excavations in areas immediately adjacent to active traffic lanes to a one-on-four slope from the edge of the roadway at the end of each working period or as directed by the Engineer.

6. The City of Flint will be responsible for notifying emergency services, transit agencies, law enforcement, and schools prior to any lane closures, detours, or major traffic shifts. In addition, the Contractor will be responsible for working with and complying with any coordination that is necessary with emergency services, transit agencies, law

enforcement, and schools. All costs associated with these coordination efforts will be considered included in the pay item “Minor Traf Devices.”

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

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

9. Any damaged devices shall be replaced immediately at no cost to the Owner.

f. Stage Construction Maintain traffic in accordance with the restrictions listed in Section d. Traffic Restrictions and the suggested sequence of operations contained herein. Use of an alternate traffic control plan is subject to review and approval by the Engineer. Refer to Maintenance of Traffic Plan, Note and Details.

1. Stage 1: Saginaw Street – Court Street (POE) to Third Street (south of intersection)
2. Stage 2: Saginaw Street – Third Street (south of intersection) to Second Street (south of intersection)
3. Stage 3: Saginaw Street – Second Street (south of intersection) to First Street (south of intersection)
4. Stage 4: Saginaw Street – First Street (south of intersection) to Kearsley Street (south of intersection)
5. Stage 5: Saginaw Street – Kearsley Street (south of intersection) to south side of bridge deck over the Flint River (POB)

g. Detours – Detour Saginaw Street and associated side streets, by stage, as indicated on Maintenance of Traffic Plan

1. Do not detour traffic until all proposed contract work on the detour route is completed, inspected, and approved by the Engineer.

2. Business and residents must have access on Saginaw Street during the detour.

3. Access for emergency vehicles shall be maintained at all times.

4. The City of Flint will be responsible for notifying emergency services, transit agencies, law enforcement, and schools prior to any detours. The Contractor will be responsible for working with and complying with any coordination of detours that is necessary with the emergency services, transit agencies, law enforcement, and schools.

5. Contractor shall cooperate with emergency services to allow access to all portions of the site at all times. Temporary aggregate profile tapers may be necessary to allow such access in deep cut areas.

h. Pedestrian or Non-Motorized Facilities.

1. 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.

2. Submit an "ADA Work Plan" for sidewalk and ADA ramp construction prior to any sidewalk ramp closures or removals. The work plan must address pedestrian access and detours. The Engineer will have seven calendar days to review the plan for approval or provide comments for revisions required to obtain approval. Do not proceed with the work until the Engineer has approved the plan.

3. Prior to placing a pedestrian/bicycle detour in use, the Contractor shall ensure all street and/or sidewalk lighting along the proposed route is in operable condition. Contractor must ensure this lighting remains in an operable condition at all times this detour is in effect.

4. Contractor shall provide ingress/egress for pedestrians to all Saginaw Street business entrances at all times. Sidewalk work in these areas shall be constructed part-width.

5. 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.

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

i. Earthwork and Excavation.

1. Restore undercuts or excavations in the work areas immediately adjacent to the active traffic lanes to no steeper than a one-on-four slope from the edge of the roadway at the end of each work day. If this condition is not met, provide a nighttime closure. Cost shall be borne by the Contractor.

2. Use protective fencing to protect open excavations within the work zone during non-working hours.

j. Unique Project Traffic Control Requirements. The Contractor must coordinate their operations with other Contractors performing work on other projects within or adjacent to the CIA. There will be no additional compensation for any coordination required with other projects. The Contractor's attention is directed to Section 104 of the MDOT 2020 Standard Specifications for Construction.

Consumers Energy (Consumer), and it's contracted representatives, are responsible for infrastructure removal and replacement within each intersection. Contractor shall remove and salvage roadway brick and remove pavement subgrade at which point Consumers will complete utility installations. Contractor shall be responsible for backfill and compaction after utility installation. Said utility installation shall be completed before storm sewer replacement. Contractor will coordinate all work with the Consumer's Contractor.

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

1. During non-working periods, any work site with uncompleted work must have applicable advance signs and channelizing devices at specific locations, as directed by the Engineer, at no additional cost to the Department.

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

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

4. Temporary Signs.

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

C. Fabricate, install, and remove temporary sign overlays on existing signs with the pay item for Sign, Type B, Temp, Prismatic, Furn. Attach the overlay in accordance with Subsection 812.03.D.2 of the MDOT 2020 Standard Specifications for Construction.

5. Temporary Pavement Marking.

A. Remove conflicting pavement markings, pavement markings in taper/transition areas and other markings as directed by the Engineer, for operations occupying a location longer than three days.

B. Quantities for temporary tape to be placed during paving operations are based on 4-inch strips, 4 feet long, spaced at 50 feet center to center for lane lines and center line, and double 4-inch strips for centerline marked for no passing.

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

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

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

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

n. Measurement and Payment. Payment will be in accordance with the standard

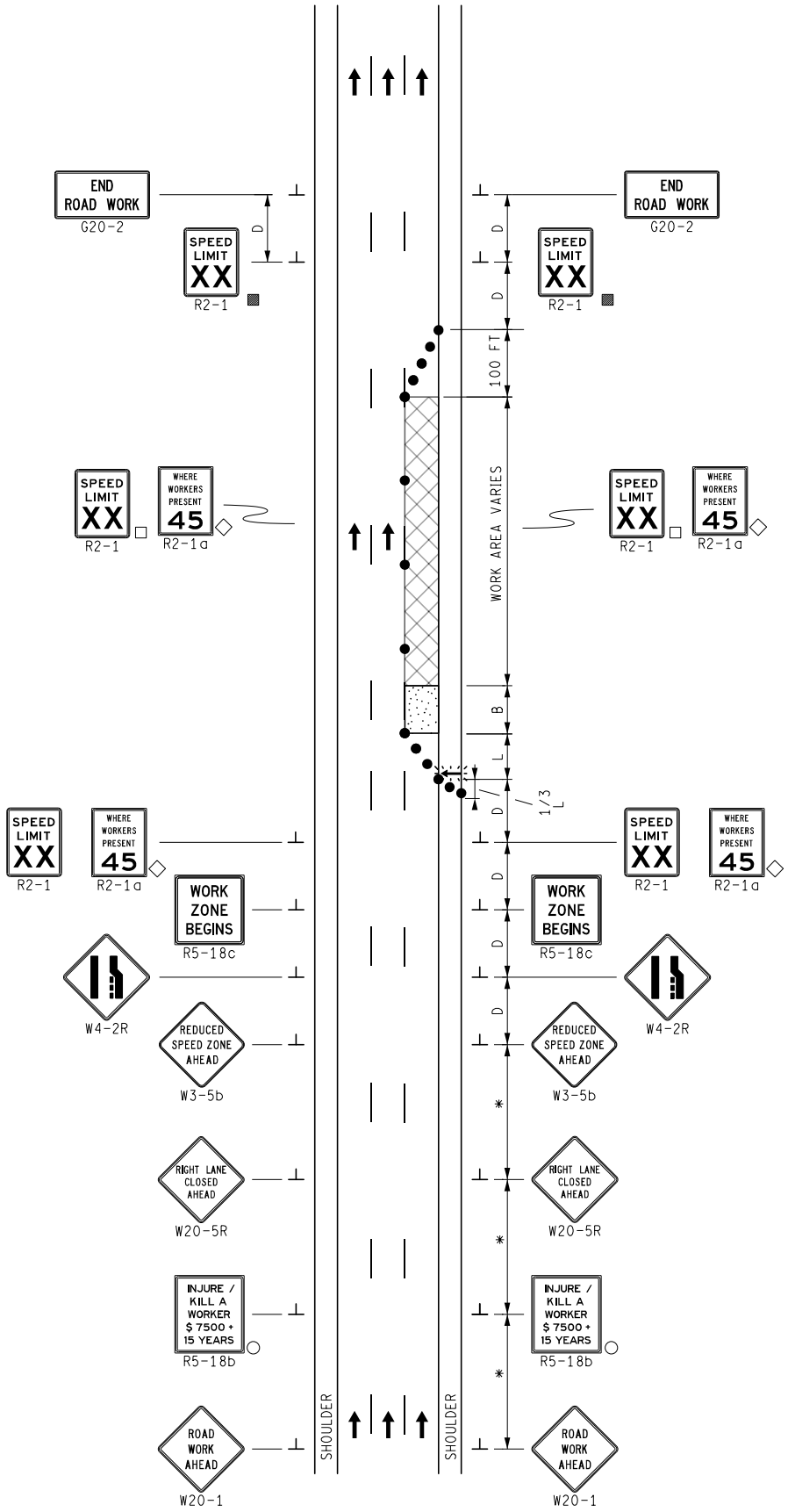
specifications unless otherwise specified. No additional payment will be made for the following activities:

1. Transporting traffic control items from site to site.

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

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

4. Additional signing or maintaining traffic devices required to expedite the construction will be borne by the Contractor.



KEY

- • • • CHANNELIZING DEVICES
- LIGHTED ARROW PANEL
- ← TRAFFIC FLOW
- ▩ REFLECTS EXISTING SPEED LIMIT
- □ PLACE SIGN AS INDICATED IN NOTE S5
- ○ PLACE SIGN AS INDICATED IN NOTE S2
- ◇ R2-1a OPTIONAL
- ✶ PLACE SIGN AT A SPACING OF D ON DIVIDED ROADWAYS AND 2D ON FREEWAYS

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1, S2, S3, S5, S8
DEVICES: TCD1, TCD2, TCD6

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	SINGLE RIGHT LANE CLOSURE ON A FREEWAY OR DIVIDED ROADWAY	DATE: MAY 2021
FILE: 203-FW-1LC-(R).dgn		NO: 203-FW-1LC-(R)		SHEET: 1 OF 1

SIGN MATERIAL SELECTION TABLE

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

TYPE I ALUMINUM EXTRUSION
TYPE II PLYWOOD
TYPE III ALUMINUM SHEET

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

POST SIZE REQUIREMENTS TABLE

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

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

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: CON/ECH

CHECKED BY: AUG

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

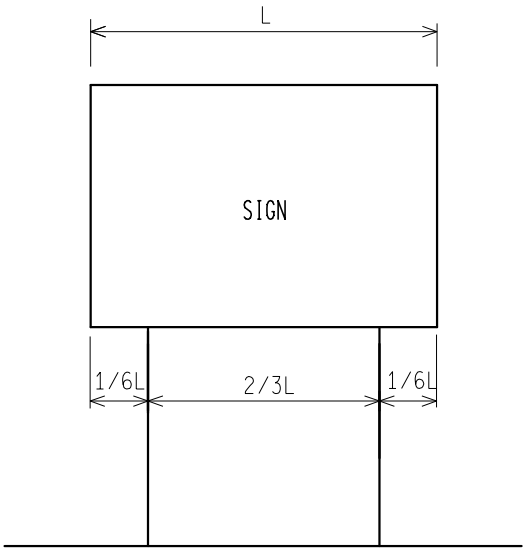
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

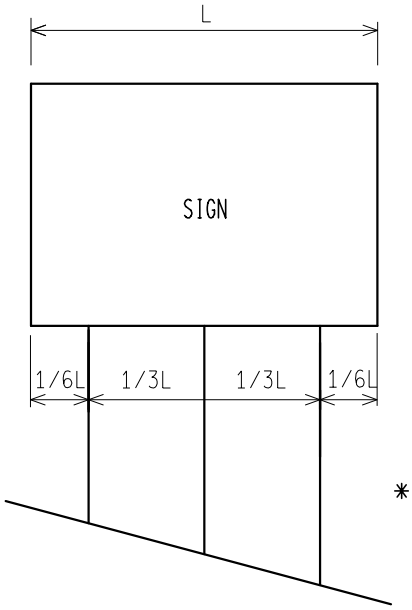
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS

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

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING

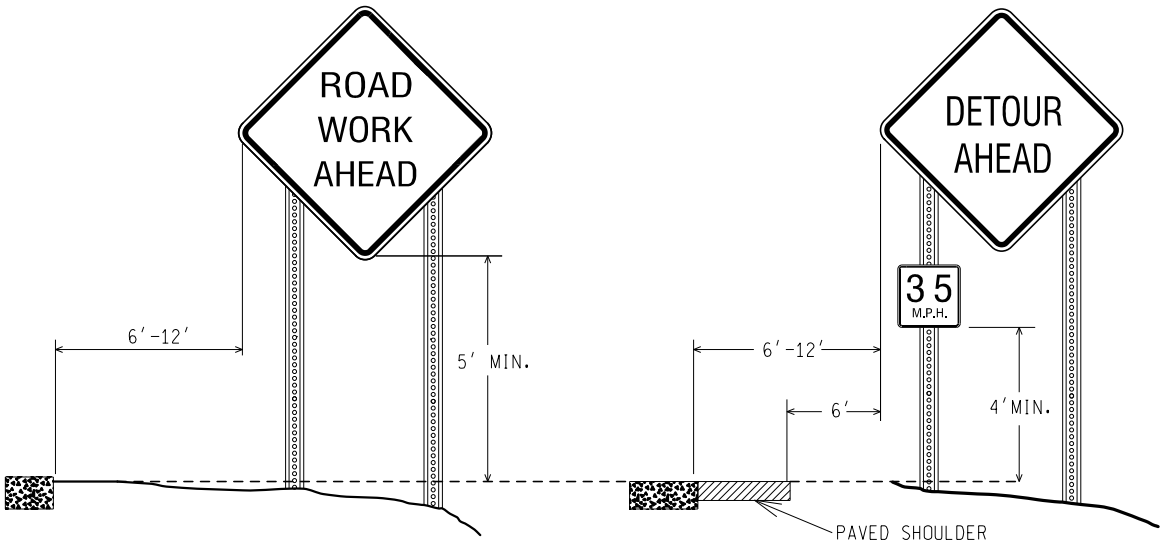


* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8' MIN. TO 9' MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE

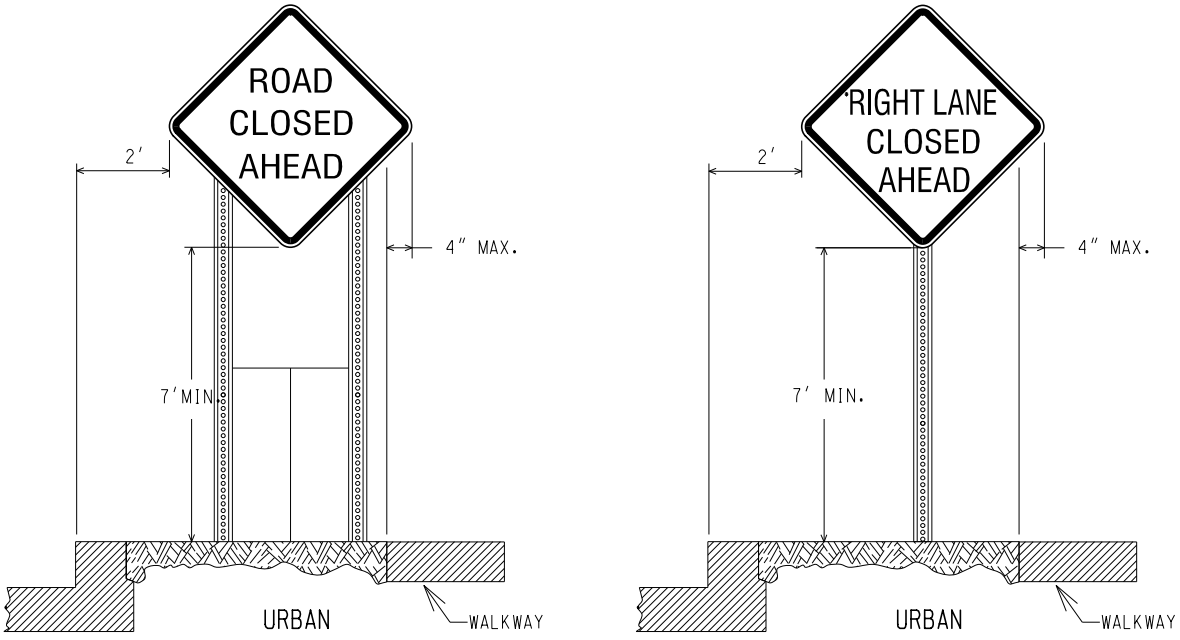
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 2 OF 11

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



RURAL

RURAL WITH ADVISORY
SPEED PLATE



(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

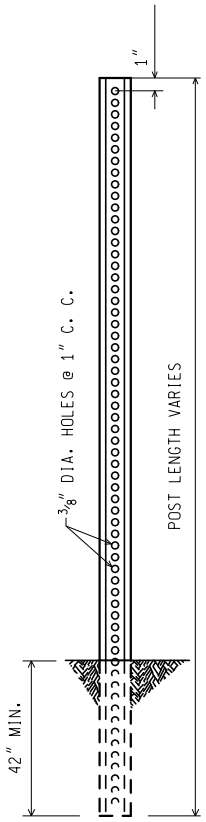
(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

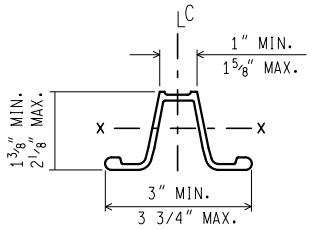
BOTTOM HEIGHT AND OFFSET

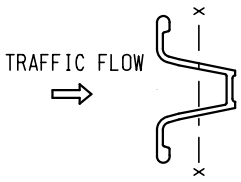
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 3 OF 11

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







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

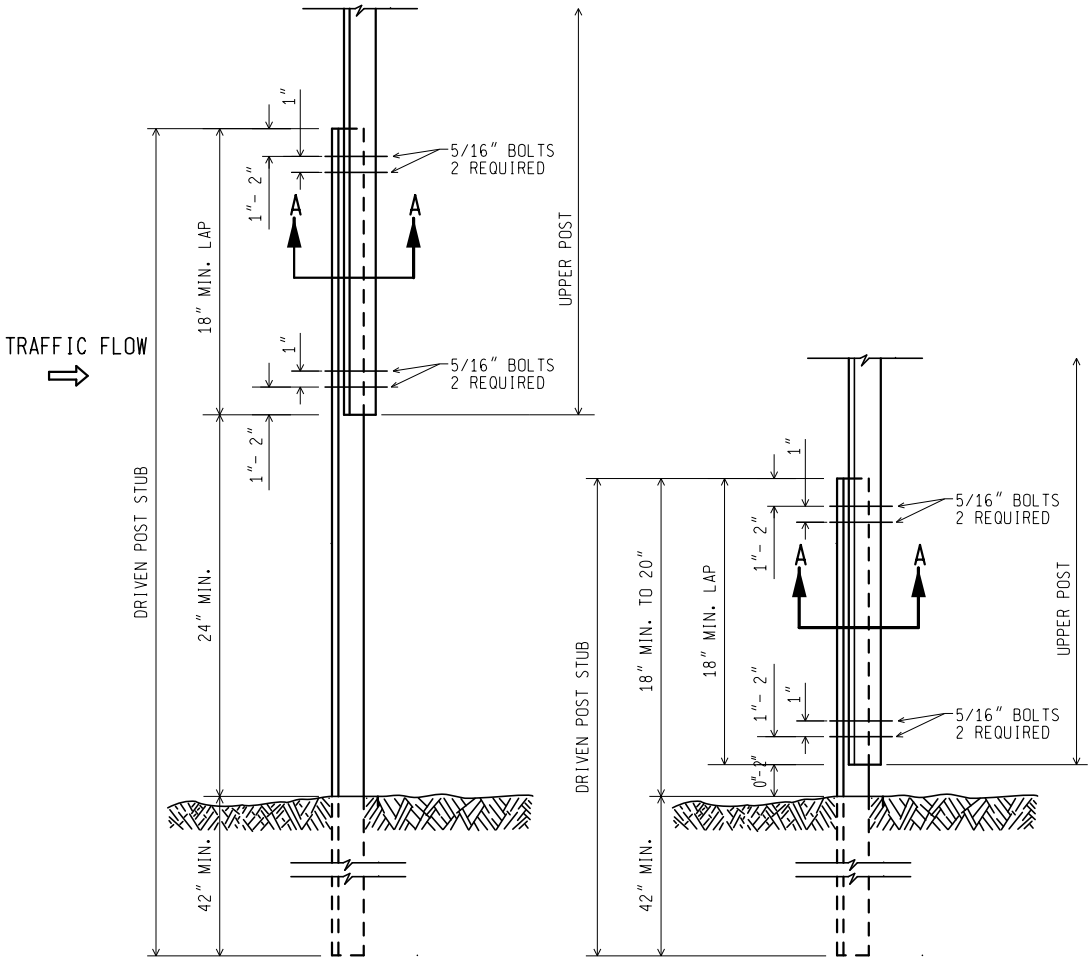
3 lb. U - CHANNEL STEEL POST
(NO SPLICE)

MOUNT SIGN ON OPEN FACE OF
U - CHANNEL STEEL POST

NOT TO SCALE

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

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



UPPER SPLICE

LOWER SPLICE

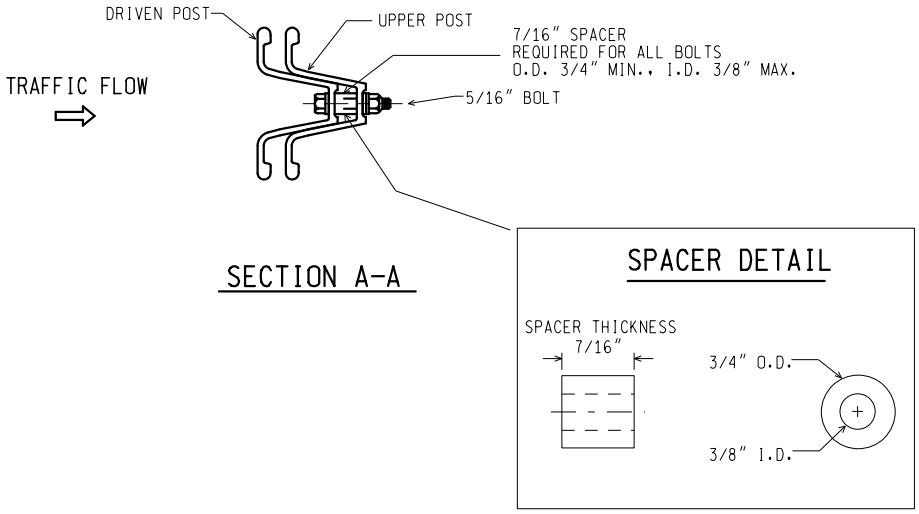
3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 5 OF 11

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



NOTES:

1. THE SPACER THICKNESS SHALL BE 1/16" LESS THAN THE GAP BETWEEN THE POST WHEN POSITIONED IN THE UNBOLTED CONFIGURATION.

2. THE EXTERIOR BOLT (CLOSEST TO LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN A PREPUNCHED HOLE 1" to 2" FROM THE END OF THE LAP.

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

4. THE DRIVEN POST SHALL ALWAYS BE MOUNTED IN FRONT OF THE UPPER POST WITH RESPECT TO THE ADJACENT ONCOMING TRAFFIC, REGARDLESS OF THE DIRECTION THE SIGN IS FACING.

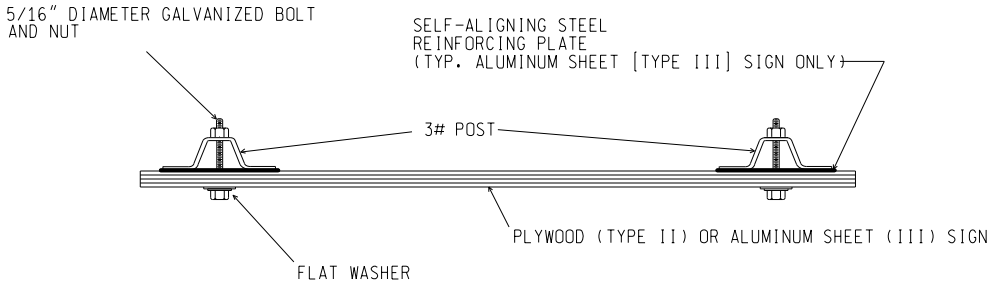
5. THE SPLICE LAP SHALL BE FASTENED BY FOUR-5/16" DIA. GALVANIZED A449 BOLTS (SAE J429 GRADE 5) OR GALVANIZED A325 BOLTS.

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

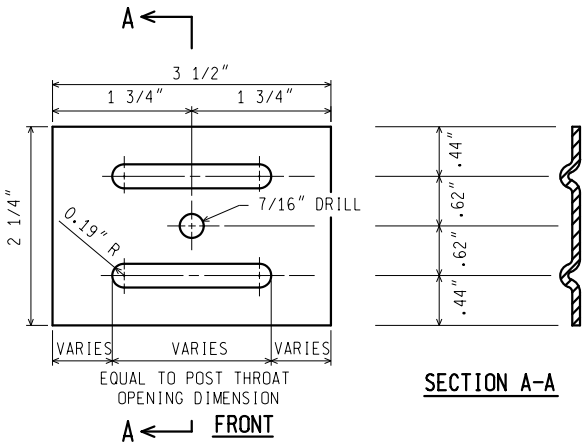
NOT TO SCALE

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



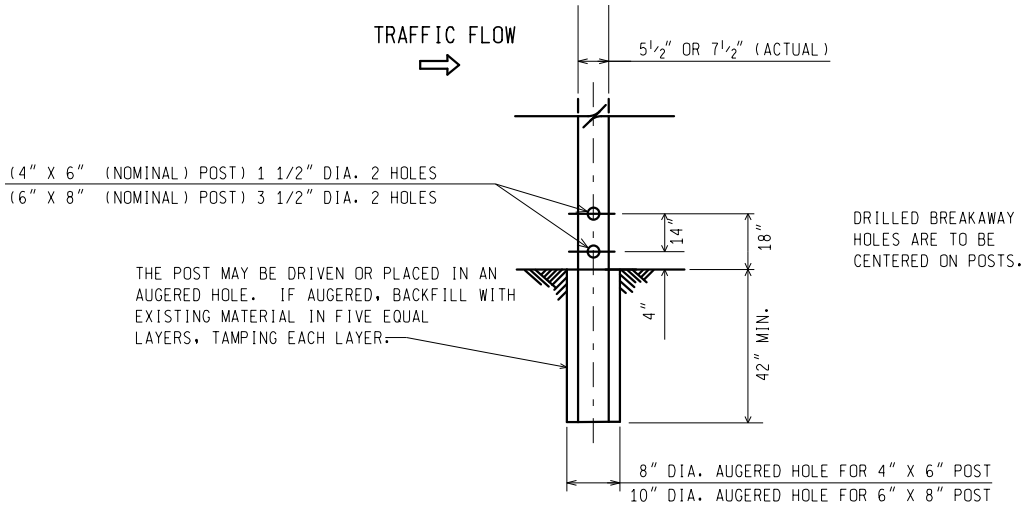
NOTES: (FOR STEEL SIGN REINF' PLATE)

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

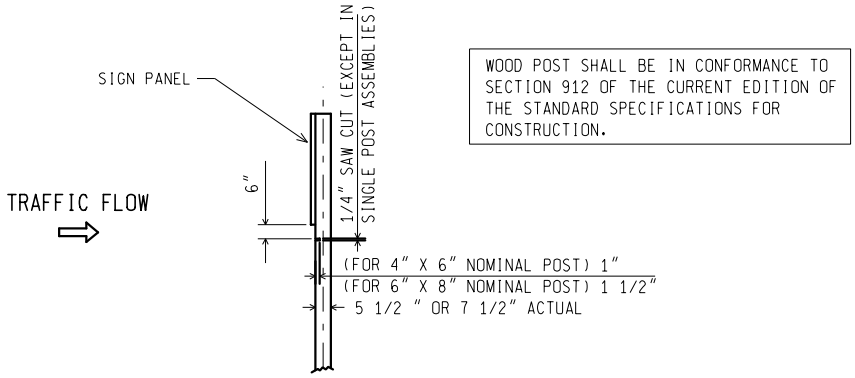
STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE



WOOD POST BREAKAWAY HOLES/ DIRECT EMBEDMENT DETAILS



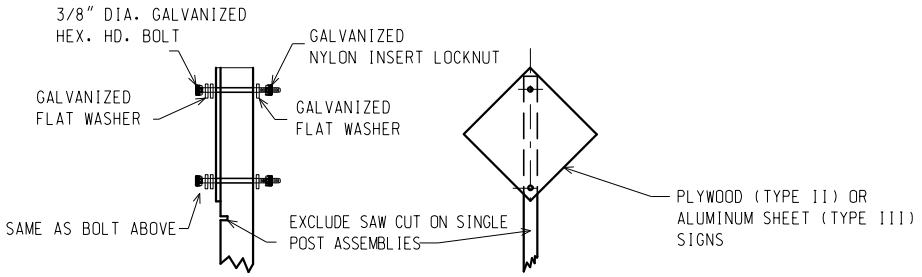
SAW CUT DETAIL (MULTIPLE POST INSTALLATIONS)

WOOD POST DETAILS

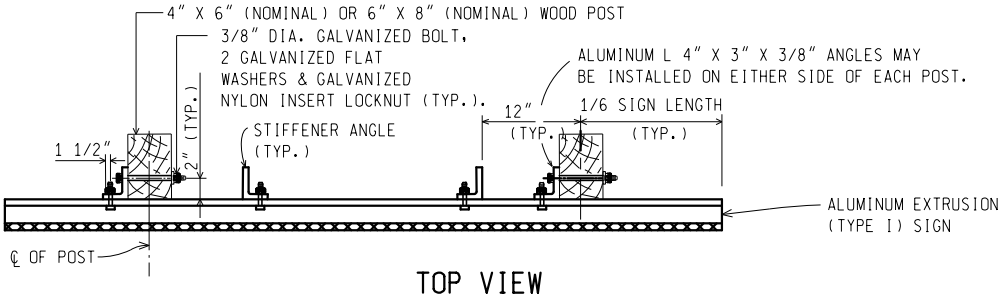
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 8 OF 11

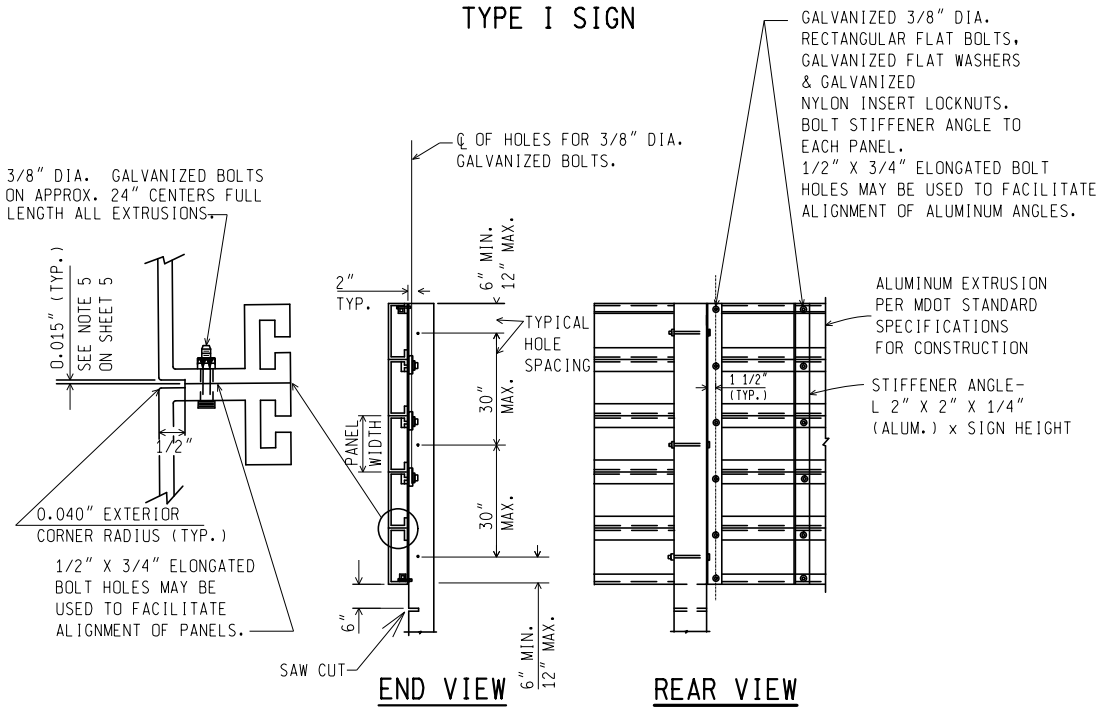
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



TYPE II AND TYPE III SIGNS



TOP VIEW
TYPE I SIGN



END VIEW
REAR VIEW

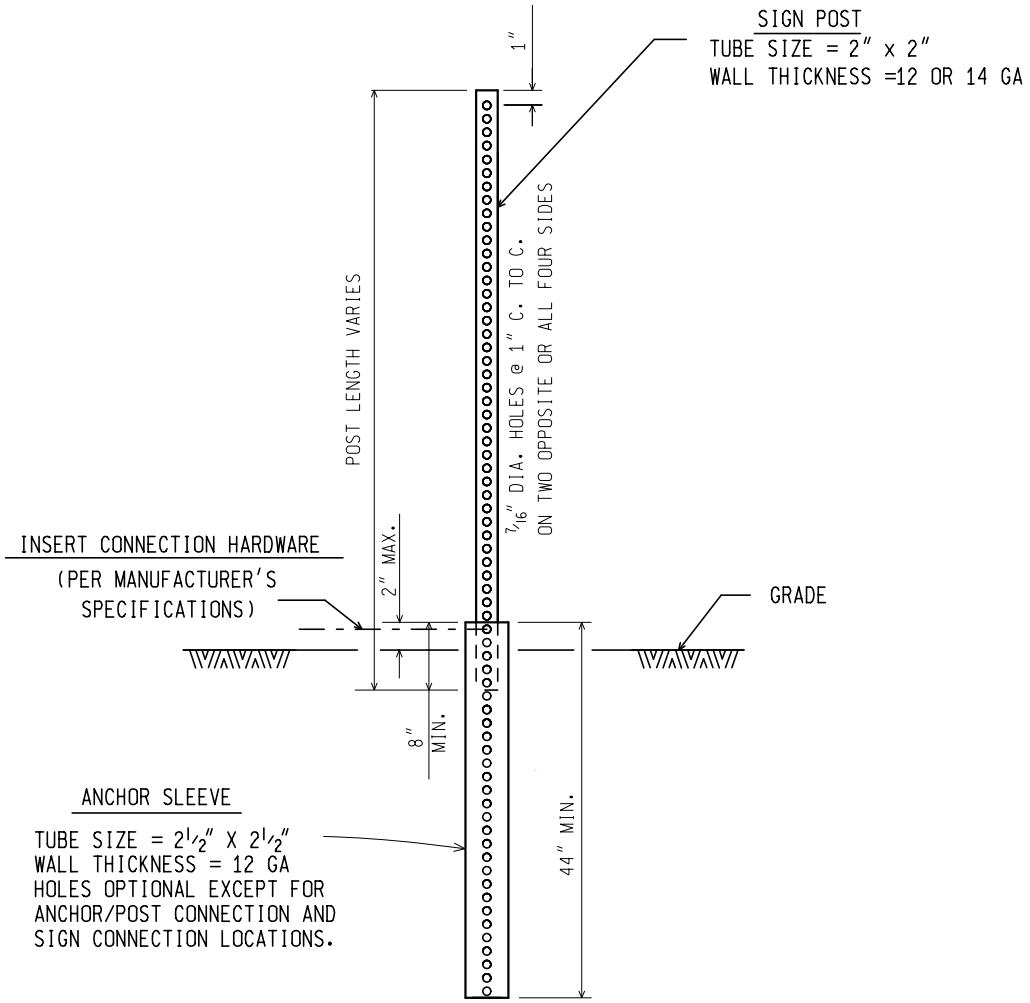
TYPE I SIGN - ERECTION DETAILS

WOOD POST CONNECTIONS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 9 OF 11

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



SQUARE TUBULAR STEEL POST

NOT TO SCALE

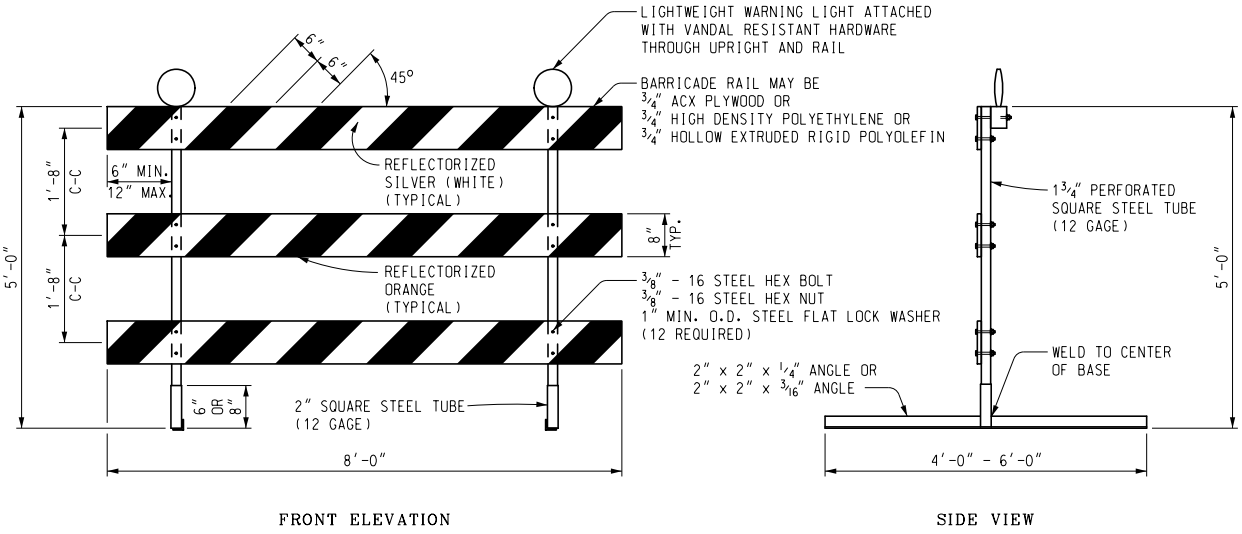
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 10 OF 11

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

GENERAL NOTES:

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

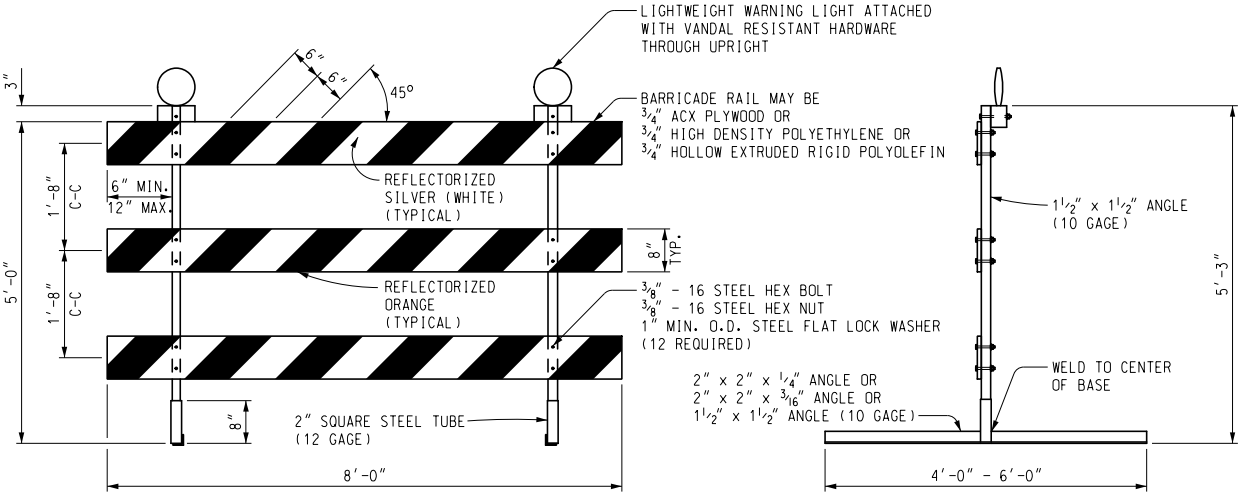
NOT TO SCALE



FRONT ELEVATION

SIDE VIEW

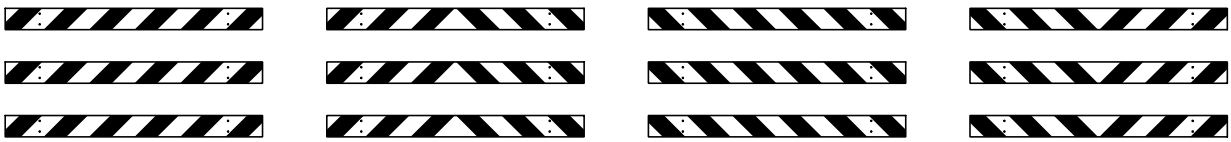
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION

SIDE VIEW

ANGLE IRON OPTION



LEFT DIRECTIONAL

BI-DIRECTIONAL

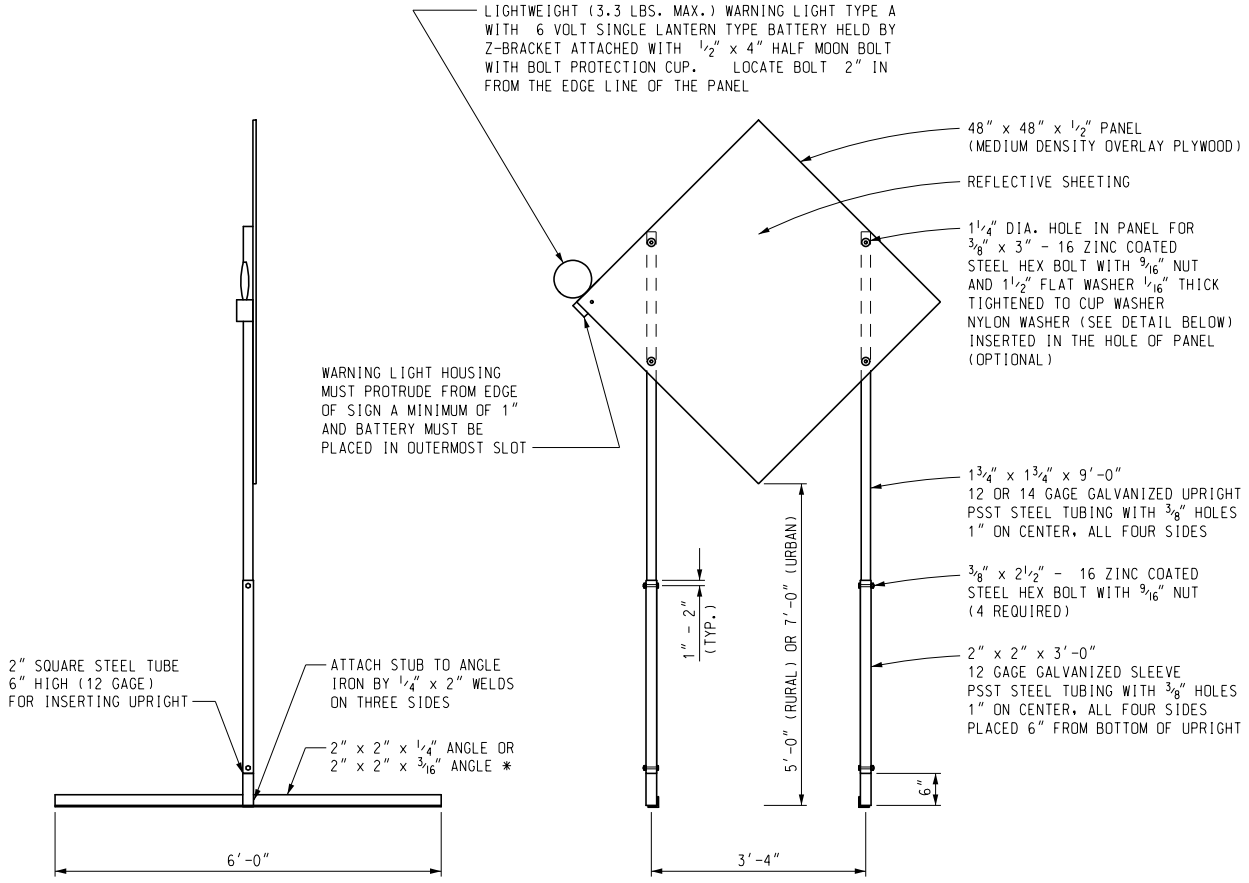
RIGHT DIRECTIONAL

CLOSURES

BARRICADE RAIL SHEETING OPTIONS
TYPE III BARRICADES

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

MDOT Michigan Department of Transportation PREPARED BY DESIGN DIVISION DRAWN BY: ECH CHECKED BY: MWB	DEPARTMENT DIRECTOR Kirk T. Steudle APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES ENGINEER OF DEVELOPMENT APPROVED BY: (SPECIAL DETAIL) 36 DIRECTOR, BUREAU OF DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR Temporary Traffic Control Devices			
			F.H.W.A. APPROVAL	1/18/11 PLAN DATE	WZD-125-E	SHEET 1 OF 3



SIDE VIEW

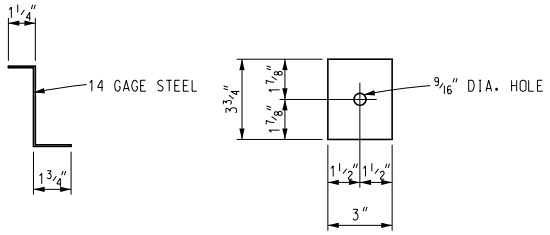
FRONT ELEVATION

TEMPORARY SIGN SUPPORT

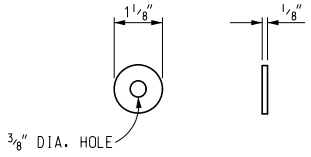
(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END.

UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Z-BRACKET DETAIL



OPTIONAL NYLON WASHER

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

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	37	SPECIAL DETAIL F.H.W.A. APPROVAL	1/18/11 PLAN DATE	WZD-125-E	SHEET 2 OF 3

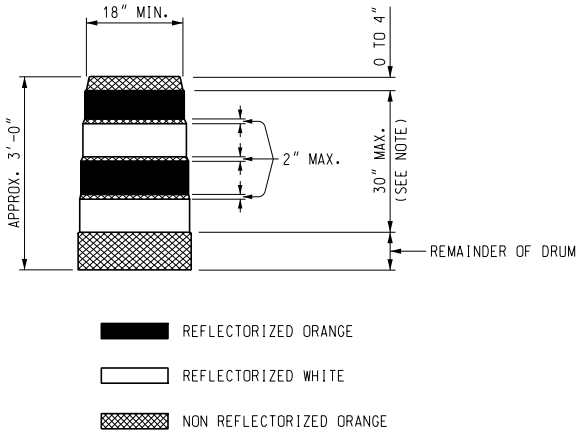
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

PLASTIC DRUM

PROPOSED TYPE III BARRICADE

EXISTING TYPE III BARRICADE

SYMBOLS TO BE USED ON PLANS



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

PLASTIC DRUM

NOTES:

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

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

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

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

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

NOT TO SCALE

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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 Flint
Genesee County
Genesee County Road Commission

CITY OF FLINT

SPECIAL PROVISION
FOR
PERMIT REQUIREMENTS

COF:WTI 1 of 1 3-14-2022

a. Description. This special provision describes the way the reimbursement for permit fees in Section 107 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction will be paid.

The following permits are required some of which require additional procedural steps to finalize the permit process by the Contractor. The Contractor shall fulfill all obligations and post all monies, insurance etc. as part of the approved application.

Genesee County Drain Commissioner:

- Soil Erosion and Sedimentation Control (SESC) Permit: This permit covers soil erosion control within the project limits. The SESC application has been conditionally approved. The permit has not been issued and must be obtained by the Contractor at the Genesee County Drain Commissioner's Office located at G4610 Beecher Road, Flint, Michigan 48532.

  Contact: Cliff Webster, SESC/GIS Technician
  810.732.7870, c.webster@gcdcwws.com

The fee associated with this permit is $600. The bond associated with this permit is $15,000 and is payable with cash or an original surety bond. Refer to the following website for SESC bond information:
https://www.gcdcwws.com/_files/ugd/aeedb5_b3a402e421e74546a13f698258143595.pdf

b. Measurement and Payment. All permit fees, as described in Section 107 of the Standard Specifications for Construction, will be paid for using the following pay item:

Pay Item	**Pay Unit**
Reimbursed Permit Fees……..	Dollar

Reimbursed Permit Fees includes the reimbursement for the eligible permit fees with supporting receipts or other proof of payment documentation from the Contractor.

CITY OF FLINT

SPECIAL PROVISION
FOR
TREE GRATE REMOVAL

COF:WTI 1 of 1 2-16-2022

a. Description. This work consists of the removal of cast iron tree grates.

b. Materials. None specified.

c. Construction. The removal work must be in accordance with state and local regulations and requirements, and as directed by the Engineer. Upon removal, Contractor shall delivery to the Flint Downtown Development Authority (DDA) Maintenance Garage located at 215 West Second Avenue, Flint, Michigan and Flint DDA will take possession. Contractor shall coordinate delivery with Kiaira May, Executive Director at 313.461.0889.

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**
Tree Grate, Rem	Each

Tree Grate, Rem will be measured and paid for by the number of tree grates removed. The contract unit price includes removal and properly disposing of the existing tree grate.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ABANDON UTILITY, REMOVE

DET:MS 1 of 1 APPR:KSH:DMG:10-06-21

a. Description. This work consists of removing out-of-service and abandoned utility manholes, valves, gas lines, water mains, conduits, and other appurtenances; and placement of backfill material where required as shown on the plans or as directed by the Engineer.

b. Materials. Furnish backfill material in accordance with section 204 of the Standard Specifications for Construction.

c. Construction. Complete all work in accordance with sections 203 and 204 of the Standard Specifications for Construction. Verify with the utility company that the existing facility to be removed is out-of-service and is abandoned. The work includes the following unless otherwise directed by the Engineer:

1. The out-of-service utilities to be removed are located as shown on the plans. Do not complete utility removal work until notified by the Engineer. This notification by the Engineer will not relieve the Contractor of the responsibility to treat the utilities as if they were still in service. Notify the Miss Dig system prior to any activity in the area of the existing utilities.

2. Remove all wire and cables from the conduit system prior to removing the conduit ducts unless deterioration has made this work not possible.

3. Remove all liquid from water mains and gas lines using methods approved by the Engineer to protect the ground or surface water from possible contamination.

4. Dispose of all waste materials in accordance with applicable federal, state, and local regulations and permit requirements.

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**
Abandon Utility, Rem __ inch	Foot

CITY OF FLINT

SPECIAL PROVISION
FOR
PAVEMENT, REMOVAL, MODIFIED

COF:WTI 1 of 1 1-26-2022

DESCRIPTION

The item of Pavt, Rem, Modified shall be in accordance with Section 204 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, and as modified herein.

CONSTRUCTION METHODS

Pavt, Rem, Modified shall consist of removing all pavement types specified in Section 204.04 of the MDOT 2020 Standard Specifications for Construction, and shall include asphalt over gravel, asphalt over soil cement, asphalt over concrete, full depth asphalt, and concrete pavements.

The cost for removing any Hot Mix Asphalt (HMA) Surface or Pavement, regardless of thickness, overlying a concrete, soil cement, or aggregate base which is to be removed is considered a part of the underlying material and shall be included in the item of Pavt, Rem, Modified. Pavt, Rem, Modified shall include the full depth of the existing pavement(s), including all pavement sections specified in the existing typical cross sections shown in the plans.

All saw cutting required for pavement removal shall be included in the Pavt, Rem, Modified pay item.

Pavt, Rem, Modified shall apply to removal of all pavement surface dimensions, regardless of width or length.

Pavt, Rem, Modified shall include all excavation, embankment, and grading required for full depth pavement replacement in accordance with the details shown in the plans.

MEASUREMENT AND PAYMENT

The completed work as measured for Pavt, Rem, Modified will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM	PAY UNIT
Pavt, Rem, Modified	Square Yard

Pavt, Rem, Modified will be measured by area in square yards and will be paid for at the contract unit price per square yard, which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

CITY OF FLINT

SPECIAL PROVISION
FOR
REMOVE, SALVAGE, AND INSTALL SALVAGED BRICK PAVERS

COF:WTI 1 of 3 3-18-2022

a. Description. This work consists of removing and salvaging existing roadway brick pavers. Stockpile the salvaged brick pavers in an area agreed upon by Engineer and the municipality. This work also consists of construction a sand bedding and installing salvaged roadway brick pavers in the areas shown on the plans. The work shall be performed by workers with satisfactory record of performance on completed projects of comparable size and quality. Provide references to the Engineer if requested.

b. Materials. Furnish materials that comply with standard specifications and this special provision. Do not use frozen materials or materials mixed or coated with ice or frost.

1. On Site Roadway Brick Pavers: Use on-site roadway brick pavers salvaged from the project limits. The Contractor may also obtain some salvaged roadway brick pavers from the City of Flint. Contractor shall be entirely responsible for contacting the City of Flint to arrange for such acquisition.

2. Off Site Roadway Brick Pavers: Provide off-site salvaged roadway brick pavers from a supplier with the following qualifications:

   a. 10 years of experience in providing reclaimed materials for municipal projects.
   b. Product has been tested by a MDOT for quality and durability.
   c. Proof of inventory and continued source of materials in quantities needed for project.

   Obtain Off-Site Roadway Brick Pavers from the following supplier or approved equal:

   Experienced Brick & Stone, LLC
   4536 Main Street, Suite 102
   Amherst, NY 14226
   Contact: Scott Smith, General Manager
   (800) 560-5811, https://www.experiencedbricks.com/

Match existing paver pattern and colors when re-installing the salvaged pavers. Use only sound pavers free of defects that could interfere with proper installation or reduce the service life of the finished work. Minor cracks and minor chipping incidental to methods of manufacture or handling are subject to visual inspection and the Engineer's approval. Excessive cracks and chips will be cause for rejection.

3. Sand Bedding. Furnish naturally occurring washed silica sand conforming to ASTM C33 standard, with no more than 0.3 percent fines passing the No. 200 sieve.

c. Construction. Conduct the work in accordance with Section 301 Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction. Place, shape and compact the stockpiled material to plan thickness, width and elevation.

Removal and Salvage

1. Restrict pedestrian and vehicular traffic in the area during removal of pavers.

2. Do not chip, break, or otherwise damage existing brick pavers during removal. Pavers are to be stacked neatly and stored on palettes in a location specified by the Engineer. Dispose of pavers that are deemed by the Engineer to be damaged during removal upon completion of salvaging.

3. Remove brick pavers to the limits of the concrete base course.

4. Dispose of pavers that are broken, chipped, stained, or otherwise damaged as directed by Engineer.

5. Stockpile the salvaged brick pavers in an area agreed upon by Engineer and the municipality.

6. Remove and properly dispose of all excess material and debris upon completion of paver installation. Stockpile the excess salvaged brick pavers in good condition to be salvaged in an area agreed upon by Engineer and the municipality.

Installation

1. Restrict pedestrian and vehicular traffic in the area during installation of pavers.

2. Protect partially completed paving against weather damage when work is not in progress.

3. Remove and replace completed work damaged during construction.

4. Place salvaged pavers in accordance with the pattern shown on the plans and the following.

5. Correct any unsatisfactory substrate or installation conditions prior to reinstalling any pavers.

6. Use full pavers wherever possible. Where cutting is required, use the largest size pavers possible. Cut pavers as needed to match the existing pattern and to neatly fit adjoining work. Cut pavers with block splitter or other equipment designed to cut masonry with clean, sharp, unchipped edges. Ragged cuts will not be accepted. Cut through the full thickness of the pavers.

7. Lay paver units to match the existing paver pattern on site. Set all pavers flush to existing adjacent concrete curbs and adjoining work. Pavers are to be fit and/or feathered into the existing brickwork pattern so as not to interrupt the existing paver pattern on site. Maintain uniform 1/16-inch to 1/8-inch joints between pavers.

8. Vibrate pavers to final grade with three or more passes of a vibrating plate compactor. After the first pass, brush joint filler material over the surface and vibrate into the joints with additional passes. Completely fill joints. After final vibrating, the surface shall be true to grade and shall not vary by more than 1/4 inch when tested with a 10-foot straightedge at any location on the surface.

9. Remove and replace pavers that are broken, chipped, stained, or otherwise damaged either prior or during the compaction effort. Furnish new matching pavers, install as specified and to minimize evidence of replacement.

10. Clean pavers during installation and upon completion of the work. Repair damage to adjacent areas resulting from paver installation operations, as directed by the Engineer.

11. Remove and properly dispose of all excess material and debris upon completion of paver installation.

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

Pay Item	**Pay Unit**
Roadway Brick Pavers, Rem and Salv	Square Yard
Roadway Brick Pavers, Install from On Site Source	Square Yard
Roadway Brick Pavers, Install from Off Site Source	Square Yard
Subbase, 1 inch, Special	Cubic Yard

Roadway Brick Pavers, Rem and Salv will be measured and paid for by the total area, based on nominal dimensions, of brick pavers removed. The contract unit price includes removal the existing pavers, salvaging and storing brick pavers that are determined acceptable for reuse, disposing of removed pavers that are determined to be unacceptable for reuse.

Roadway Brick Pavers, Install from On Site Source shall be measured and paid for by the total area of salvaged roadway brick pavers obtained from within the project limits and installed. The contract unit price includes installing salvaged roadway brick pavers, joint filler, restoration of the site after construction, and disposal of excess or unsuitable materials. Roadway brick pavers obtained from the City of Flint, including any costs associated with transporting to the Project Site, shall be paid for as: **Roadway Brick Pavers, Install from On Site Source.**

Roadway Brick Pavers, Install from Off Site Source shall be measured and paid for by the total area of salvaged roadway brick pavers obtained from a supplier and installed. The contract unit price includes purchasing, delivery, staging, and installing salvaged roadway brick pavers, joint filler, restoration of the site after construction, and disposal of excess or unsuitable materials.

Payment for furnishing and placement of **Subbase, 1 inch, Special** to meet plan thickness, width and elevation will be paid for separately according to Section 301 of the MDOT 2020 Standard Specifications for Construction.

CITY OF FLINT

SPECIAL PROVISION
FOR
HMA APPLICATION ESTIMATE

COF:WTI 1 of 1 1-26-2022

a. Description. This work shall be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction except as herein specified.

b. Construction Methods. The construction methods shall be in accordance with Section 501 of the MDOT 2020 Standard Specifications for Construction**.**

c. Testing. The material shall be tested in accordance with Section 501 of the MDOT 2020 Standard Specifications for Construction**.**

d. Material.

Pay Item	HMA Pavement Mix	Total Estimated Thickness	Rate of Application per Lift	Remarks
HMA, 4C	HMA, 4C	1.5 inches	165 Lbs/Syd	Approach, top course
HMA, 3C	HMA, 3C	2.0 inches	220 Lbs/Syd per Lift	Approach, leveling course
HMA, 3C	HMA, 3C	3.0 inches	330 Lbs/Syd per Lift	Approach, base course, 3” maximum lift

The Aggregate Wear Index (AWI) for all aggregates used in the HMA top course mixtures shall be 260 (Minimum). The performance grade asphalt binder range for the HMA, 3C and 4C shall be 58-28, as specified on the project HMA application chart in the project plans.

The HMA bond coat material shall be per Section 501.03 of the MDOT 2020 Standard Specifications for Construction. The application rate on existing or between courses shall be 0.05 to 0.15 gallons per square yards. The bond coat shall not be paid for separately but be considered inclusive to the payment for the HMA material.

d. Measurement and Payment. Measurement and Payment shall be at the contract unit price per ton.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HOT MIX ASPHALT PRICES FOR ADJUSTMENTS

LAP: BMS 1 of 1 APPR:MAS:KPK:11-08-21

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
5010031	HMA, 3C	Ton	$68.98
5010032	HMA, 4C	Ton	$69.18

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PORTLAND CEMENT CONCRETE PRICES FOR ADJUSTMENTS

LAP:BMS 1 of 1 APPR:MAS:JFS:04-09-21

a. Description. This special provision identifies the price(s) that will be used in all price adjustments for work related to Portland cement concrete 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
6020104	Conc Pavt, Nonreinf, 8 inch	Syd	$47.71

CITY OF FLINT

SPECIAL PROVISION
FOR
DECORATIVE CONCRETE SURFACE

COF:WTI 1 of 3 1-26-2022

a. Description. This work consists of providing all labor, materials, and equipment required to construct a colored and patterned decorative concrete surface at the locations specified on the plans. Complete this work in accordance with the standard specifications, except as modified herein.

b. Submittals. Electronically submit a plan showing the types and locations of joints, reinforcement, and sequence of construction. Electronically submit a report detailing the concrete mix designs to be used, including manufacturers and/or suppliers of mixture components. Electronically submit technical data sheets for a single manufacturer's complete system for products and/or materials including admixtures, colorants, curing compounds, decorative concrete sealer, dry-shake finish materials, imprinting tools, and any other products requested by the Engineer. Electronically submit test data from tests conducted by an independent testing laboratory within the past 24 months reporting that the coloring pigment conforms to the general requirements of *ASTM C 979*. Obtain approval from the Engineer prior to beginning work.

c. Certification. Provide proof of Michigan Concrete Association (MCA) Decorative Concrete Certification, or proven equivalent manufacturer training and certification for placing decorative concrete, to the Engineer.

d. Materials. Provide materials meeting the requirements of Section 803 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction.

Use a single manufacturer's complete system for products and/or materials.

1. Concrete Colorant. Use complete pigment system including integral colorants, dry shake colorants, and/or release hardeners from one of the following manufacturers, or other sources as approved by the Engineer.

Brickform 800-483-9628
Altamar Decorative Concrete.....800-443-2627
Decorative Concrete Resources.....866-792-9000
Increte Systems.....800-752-4626
L.M. Scofield Co. 800-800-9900
Prism Pigments 888-440-4250
Proline Concrete Tools.....800-795-4750
Vexcon Chemicals.....888-839-2661

A. Concrete Integral Color. Use a brown pre-weighed and packaged coloring pigment in either powder, granular, or liquid form. Ensure that materials comply with *ASTM C 979* standards for integrally colored concrete.

B. Release Agent. Use a light platinum gray dry-shake powder to facilitate release of

imprinting tools as manufactured by Altamar Decorative Concrete, Brickform, Prism Pigments, or other as approved by the Engineer.

2. Curing Compound. Do not use standard curing compounds on decorative concrete. Instead use a surface sealer as listed in section d.3 of this special provision.

3. Surface Sealer. Use a Type I, Class A solvent acrylic sealer conforming to the requirements of *ASTM C 1315* from the approved list below, or other as approved by the Engineer.

A. Altamar Decorative Concrete.
   - Super Clear Seal II.

B. Brickform.
   - Safety-Seal MS-5.

C. Vexcon Chemicals.
   - Certi-Vex AC 1315 solvent base sealer.
   - Certi-Vex Gloss Sealer FT solvent base sealer.

4. Slip resistant additive. Mix slip resistant additive with the sealer according to the manufacturer's recommendations.

A. Increte
   - Shur-Grip.

B. Vexcon Chemicals
   - Certi-Vex Grip.

C. H & C
   - SharkGrip.

e. Equipment. To impart desired texture, use high-quality resilient mats reproduced from castings of natural materials and providing uniform control of joint depth. Use tools capable of producing the pattern(s) shown on the plans and/or as required by the Engineer. Use imprinting tool(s) from the approved manufacturer and pattern list below, or present a substitute mat design, manufacturer, or pattern to the Engineer for approval:

Running Bond New Brick by Altamar Decorative Concrete, Brickform, L.M. Scofield Co., or other as approved by the Engineer.

f. Field-Constructed Mock-up. Prior to installation of colored concrete and/or stamped concrete paving work, construct mock-up panels in place to verify color and texture selections and processes for qualities of appearance, materials, and construction. Build mock-ups to comply with the following requirements:

1. Size. Cast a minimum 5 foot by 5 foot mock-up to demonstrate typical joints, surface finish, texture, color, and standard of workmanship.

2. Acceptance. If Engineer determines that mock-up does not meet requirements, demolish and remove it from the site, and cast another until the mock-up is accepted. All costs associated with mock-ups in addition to the first will be borne by the Contractor.

3. Use. Keep accepted mock-up undisturbed during construction as a standard for comparison to completed paving. Undamaged mock-up may be incorporated into the work or demolished and removed from the site when directed by the Engineer.

g. Construction. Construct decorative concrete surface according to Section 803 of the MDOT 2020 Standard Specifications for Construction.

1. Preparation. Carefully lay out the locations of forms and joints, taking into consideration the orientation of the pattern as shown on the plans, intended aesthetics, and construction sequence.

2. Integral Color. Comply with the color manufacturer's published recommendations and instructions for mix designs, admixtures, concrete temperature, mixing, installing, finishing, and curing. Coordinate stamped colored concrete to ensure consistency in color, texture, and quality.

3. Release Agent. Apply powder release agent per manufacturer guidelines at the minimum rate required to cover the previously colored surface.

4. Imprint Pattern. Comply with tool manufacturer's standards and MCA practices. Lay out to proper alignment and imprint to a consistent depth while concrete is plastic. Do not allow the surface to crust over or harden before stamping. Hand-tool in areas where using imprinting tools is not practical.

5. Removal of Excess Release Agent. Wash off excess release agent with normal water pressure prior to joints being cut. Remove a minimum of 80 percent of the release agent. Temperature conditions will dictate the timing of release agent removal. Dispose of any excess release agent in compliance with local regulations.

Acid washing of decorative surface may be required to achieve the desired finish as directed by the Engineer. A minimum of 36 hours after placement, apply a solution of 1 part muriatic acid to 30 parts potable water to the surface and lightly scrub with a straw broom. Wash the surface until proper color has been achieved and then flush thoroughly.

6. Sealing Decorative Surface. Seal the surface with approved sealer according to the manufacturer’s recommendations. Refer to section d.3. of this special provision for approved products and to the manufacturer’s technical data sheets for proper installation procedures, including moisture content restrictions at time of application.

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

Pay Item	**Pay Unit**
Decorative Conc, Surface, 8 inch	Square Yard

Decorative Conc Surface, 8 inch will be measured by the area of the concrete surface, in place.

Demolition and removal of mock-up, if necessary, will be at the Contractor’s expense.

CITY OF FLINT

SPECIAL PROVISION
FOR
DETECTABLE WARNING SURFACES

COF:WTI 1 of 1 1-26-2020

a. Description. This work shall be done in accordance with Section 803 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, except as herein provided.

b. Materials. The approved detectable warning surfaces shall be cast iron detectable warning plates and shall be Federal Color No. 30252 (Rust Red).

c. Construction. Install detectable warning surfaces in accordance with the manufacturer's instructions, Section 803 of the MDOT 2020 Standard Specifications for Construction, and MDOT Standard Plan R-28 Series.

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

Pay Item	**Pay Unit**
Detectable Warning Surface, Modified	Foot

The item of **Detectable Warning Surface, Modified** includes all labor, materials, and equipment necessary to perform the removal operation as required to complete the work. The pay limits will be measured in place by length along the center of the 24-inch wide detectable warning at the required locations.

CITY OF FLINT

SPECIAL PROVISION
FOR
CONCRETE DOOR FOUNDATION, SPECIAL

COF:WTI 1 of 1 2-11-2022

a. Description. This work consists of furnishing and installing steel reinforced concrete with a thickness of 10 inches over undisturbed earth pedestrian doorway openings to prevent frost heave.

b. Materials. Provide materials in accordance with Section 602 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction. Provide reinforcing steel in accordance with Section 905 of the MDOT 2020 Standard Specifications for Construction and the Concrete Door Foundation Detail located on Sheet 13 of the plan set.

c. Construction. Construct the reinforced concrete in accordance with Section 602 of the MDOT 2020 Standard Specifications for Construction, the details shown on the plans and this special provision. Conduct work without causing damage to the adjacent building

Place the steel reinforcement as indicated on Frost Free Door Foundation Detail

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**
Conc Door Foundation, Special	Square Foot

Conc Door Foundation, Special will be paid for based on plan quantities in accordance with subsection 109.01 of the Standard Specifications for Construction. Payment for furnishing and placing steel reinforcement will be included in the pay item for **Conc Door Foundation, Special**.

CITY OF FLINT

SPECIAL PROVISION
FOR
REMOVE, SALVAGE AND REINSTALL SIDEWALK BRICK PAVERS

COF:WTI 1 of 2 2-1-2022

a. Description. This work consists of removing, salvaging and reinstalling existing brick pavers to match the proposed concrete sidewalk finished grades. Stockpile the excess salvaged brick pavers in an area agreed upon by Engineer and the municipality. This work must be performed by workers with satisfactory record of performance on completed projects of comparable size and quality. Provide references to the Engineer if requested.

b. Materials. Use materials meeting the standard specifications and this special provision. Store granular materials in a well drained area on a solid surface to prevent mixing with foreign materials. Do not use frozen materials or materials mixed or coated with ice or frost.

1. Salvaged Brick Pavers. Use only brick pavers that are salvaged from removal areas on this project. Salvaged pavers from other sources are not allowed. Salvaged pavers that are broken, chipped, stained, or otherwise damaged are not to be used.

2. Sand Bedding Layer. Use 2NS in accordance with Section 902 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction or blast furnace slag sand in accordance with the gradation shown in Table 1 (commercially known as 30A Blast Furnace Slag):

Table 1: Grading Requirements for 30A Blast Furnace Slag

Sieve Analysis (*ASTM C 136*) Total Percent Passing								
U.S. Sieve	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	95-100	70-95	45-75	25-55	15-35	0-20	-

3. Paver Joint Filler. Use 2MS in accordance with Section 902 of the MDOT 2020 Standard Specifications for Construction.

c. Construction. Restrict pedestrian and vehicular traffic in the area during installation of pavers. Do not build on frozen, wet, saturated, or muddy sub-grade. Protect partially completed paving against weather damage when work is not in progress. Remove and replace completed work damaged by frost or freezing.

1. Removing and Salvaging Brick Pavers. Do not chip, break, or otherwise damage existing brick pavers during removal. Pavers are to be stacked neatly and stored on palettes in a location specified by the Engineer. Dispose of pavers that are deemed by the Engineer to be damaged during removal upon completion of salvaging.

2. Remove brick pavers and concrete base course to the limits of the concrete sidewalk ramp construction. Remove additional brick pavers to provide a flush transition between the brick pavers and proposed concrete sidewalk.

3. Install the proposed concrete sidewalk to the finished grade adjacent to the existing concrete base course.

4. Sand Bedding Layer. Spread sand bedding layer materials evenly over the entire area to be paved, screed to a level that provides a 1-inch thickness and that allows the pavers to be flush with adjacent sidewalk after compaction. Protect completed sand bedding layer from damage until covered with paver units. Do not pre-compact sand bedding layer.

5. Pavers. Correct any unsatisfactory substrate or installation conditions prior to reinstalling any pavers. Use full pavers wherever possible. Where cutting is required, use the largest size pavers possible. Cut pavers to provide required pattern and to neatly fit adjoining work. Cut pavers with block splitter or other equipment designed to cut masonry with clean, sharp, unchipped edges. Ragged cuts will not be accepted. Cut through the full thickness of the pavers. Do not cut more than 1 inch of the 4-inch dimension of a soldier course.

Lay paver units to match the existing paver pattern on site. Set all pavers flush to existing adjacent concrete curbs and adjoining work. Pavers are to be fit and/or feathered into the existing brickwork pattern so as not to interrupt the existing paver pattern on site. Maintain uniform 1/16-inch to 1/8-inch joints between pavers.

Vibrate pavers to final grade with three or more passes of a vibrating plate compactor. After the first pass, brush joint filler material over the surface and vibrate into the joints with additional passes. Completely fill joints. After final vibrating, the surface must be true to grade and not vary by more than 1/4 inch when tested with a 10-foot straightedge at any location on the surface.

Remove and replace pavers that are broken, chipped, stained, or otherwise damaged.

Clean pavers during installation and upon completion of the work. Repair damage to adjacent areas resulting from paver installation operations, as directed by the Engineer.

Remove and properly dispose of all excess material and debris upon completion of paver installation. Stockpile the excess salvaged brick pavers in good condition to be salvaged in an area agreed upon by Engineer and the municipality.

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

Pay Item	**Pay Unit**
Sidewalk Brick Pavers, Rem, Salv, and Reinstall	Square Foot

1. **Sidewalk Brick Pavers, Rem, Salv, and Reinstall** will be measured and paid for by the total area, based on nominal dimensions, of brick pavers removed. The contract unit price includes removal the existing pavers, salvaging and storing brick pavers that are determined acceptable for reuse, disposing of removed pavers that are determined to be unacceptable for reuse, and notifying the municipality for pick up the unused pavers. **Sidewalk Brick Pavers, Rem, Salv, and Reinstall** also includes excavation, furnishing and placing, sand bedding layer materials, installing salvaged brick pavers, joint filler, restoration of the site after construction, and disposal of unsuitable materials.

CITY OF FLINT

SPECIAL PROVISION
FOR
REMOVE, SALVAGE, AND REINSTALL SITE FURNISHINGS

COF:WTI 1 of 33 3-18-2022

a. Description.
This work consists of documenting the existing location prior to removal, removing and salvaging the existing site furnishings consisting of benches, trash receptacles, bike racks, parking meters, and parking meter sensors utilizing a non-destructive method. Salvage site furnishings suitable for reuse and stockpile them in a secure location as approved by the Engineer.

This work also consists of providing all labor, materials and equipment necessary to reinstall the salvaged site furnishings in the existing locations or as specified by the Engineer, which include trash receptacles, benches, parking meters, and parking meter sensors in accordance with the manufacturer's recommendations. This work includes any necessary excavation, backfilling and disposal of unsuitable materials required for a complete installation.

b. Materials. Provide the anchors bolts, nuts, washers, receptacle liner, fasteners, and all other hardware required for installation per the manufacturer's recommendations. Existing materials may be reused if approved by the Engineer.

1. Trash Receptacles, Benches, and Bike Racks

A. Use materials in the reinstallation of the salvaged trash receptacle, bench and bike rack that are in accordance with the manufacturer's recommendations. Surface mount in accordance with the manufacturer's recommendations.

B. Ensure all anchoring bolts, nuts, washers, and all other hardware used for installation are galvanized.

2. Parking Meters and Parking Sensors.
A. Use materials in the reinstallation of the parking meter equipment in accordance with the manufacturer's recommendations included in this Special Provision.

c. Construction. Remove the existing site furnishings consisting of benches, trash receptacles, bike racks, parking meters, and parking meter sensors at the locations shown on the plans. Neatly stockpile the site furnishings approved for reuse by the Engineer in a secure location. Transport and store the site furnishings to ensure the condition after completion of the work is the same as before removal.

Site furnishings not suitable for reuse must be disposed of per section 204 of the Standard Specifications for Construction.

Install and anchor the site furnishings in the concrete in accordance with the details shown on the plans and per the manufacturer's specifications and recommendations.

1. Install the trash receptacle level and square in a true, flat plane to prevent rocking.

2. Install the bench level and square in a true, flat plane to prevent rocking. Ensure the seat height is 17 inches.

3. Install the parking meter equipment in accordance with the manufacturer's recommendations included in this Special Provision. The following contractors are approved to complete the parking meter reinstallation:

Walker Electric, Inc.
2410 Kansas Avenue
Flint, Michigan 48506
Contact: Dee Schoenfield, President
810.233.5111

Other qualified contractor's shall be approved by the Engineer prior to initiating reinstallation of the parking meters.

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

Pay Item	**Pay Unit**
Bench, Rem and Salv	Each
Trash Receptacle, Rem and Salv	Each
Bike Rack, Rem and Salv	Each
Parking Meter, Rem and Salv	Each
Parking Meter Sensor, Rem and Salv	Each
Parking Meter Sensor, Reinstall	Each
Trash Receptacle, Reinstall	Each
Bench, Reinstall	Each
Parking Meter, Reinstall	Each
Bike Rack, Reinstall	Each

Parking Meter, Reinstall shall include salvaging and reinstalling Sentry Parking Meters, Sentry ParkingStick, and Sentry SafefyStick measured and paid for by each within the project limits. The contract unit price includes coordination and installation of HPDE conduit under proposed sidewalk and installation of power and communication lines in accordance with the manufacturer's recommendations included in this Special Provision.

5/27/2020

Sentry™ Parking System
Installation Guide

Version 1.6_48

Contents

Overview

Municipal Parking Services Product Description:

The MPS Sentry™ Parking Meter is an intelligent parking system, intended to replace the traditional coin operated parking meters. The system requires the installation of the following:

- Power Distribution Unit (PDU)
- Data Backhaul Cabinet (to be explained in separate doc. Brief explanation on pg. 6)
- Poles for mounting the meter
- A Sentry™ Parking Meter head
- Vehicle sensing equipment
- Wi-Fi Radios (optional)

The MPS Sentry Parking Meters require a low voltage (direct current) connection, and a data connection. A Power Distribution Unit (PDU) is a centralized enclosure that converts high voltage alternating current into low voltage direct current, to power meters. The PDU also provides data termination from the meters and a means to push data to the internet.

Sentry meters are connected in a daisy chain configuration. It begins at the PDU and connects each meter in a string until reaching the end of the string. Two connections are required: 1) a stranded 12AWG wire for power, and 2) CAT6 Ethernet. The power and data wires are direct burial rated.

Usually, Sentry meters are to be installed in the location where existing meters are already located. The meters can be configured for either a single stall, or a dual stall. Each stall requires vehicle detection using a battery-operated puck that is embedded in the asphalt and assigned to a parent meter. The pucks communicate wirelessly with a gateway device located inside each meter head.

When installing into a developed urban environment, trenching may be required. MPS employs a trenching method known as Micro Trenching. The micro trenching technique has become the preferred method for the fiber industry and will work well for the Sentry parking meter implementation. Instructions to follow.

3

Power Distribution Unit (PDU):

Sentry™ meters require a 48VDC hardwire connection, which is derived from an AC/DC power supply within an outdoor enclosure (PDU).

Before PDU is installed, MPS will:

- Initiate contact with local power company/new commercial business personnel.
- Define locations for the power company, and the contractor.
- Provide technical specifications concerning the PDU.
- Generate and distribute PDU locations, including any overhead pole numbers/locations and manhole/hand-hole locations.
- Obtain electrical contractor.
- File for new service connections. Provide load information.
- Follow power company process, such as: prints, applications, flash blankets, pulling wire and termination. For overhead: which side of the pole, height, location of PDU from the pole.
- Determine shutoff and electrical meter requirements. Height, voltage rating, etc.
- Identify conduit size for the high voltage coming into the PDU.
- Obtain inspector requirements, if possible.
- Schedule an electrical inspection upon completion of PDU installation.

About the PDU:

PDU's convert 120VAC in, to 48VDC out. PDU's contain a 10/100mb Ethernet switch where the Ethernet data wires are to be terminated via an RJ45 jack.

Single power supply models will have 1 AC connection entering the enclosure, and 2 wires (12AWG & CAT6 Ethernet) exiting the enclosure. (Double the count of wires exiting with a Dual supply PDU.)

To meet the needs of site-specific variances, MPS has 3 PDU models:

- Single 10A 48V
- Dual 10A 48V
- Dual 20A 48V

PDU enclosures are 35"x 24"x 12" and weigh 60 lbs. PDU's are always mounted on a raised cement pad, or a custom pedestal.

The PDU is located outdoors on the sidewalk near the power company's power splice location.

Schematics are included in the PDU for electrical connection. (Additional details are included in this document.)

Protection bollards may also be installed depending on the actual location of the PDU.

PDU High Voltage:

PDU requires a high voltage 120VAC/20A input supplied by an overhead drop, or underground hand-hole access. AC run must have its own sweep.

The sweep for the AC input voltage from the street will be oriented and sized to accommodate the specified wire gauge.

Electrical current meter and shutoff pans are to be installed external to the enclosure when required.

PDU Low Voltage:

Low voltage is described as 48VDC @ 20A maximum.

The low voltage output from the PDU will run to each meter site through a thin cut.

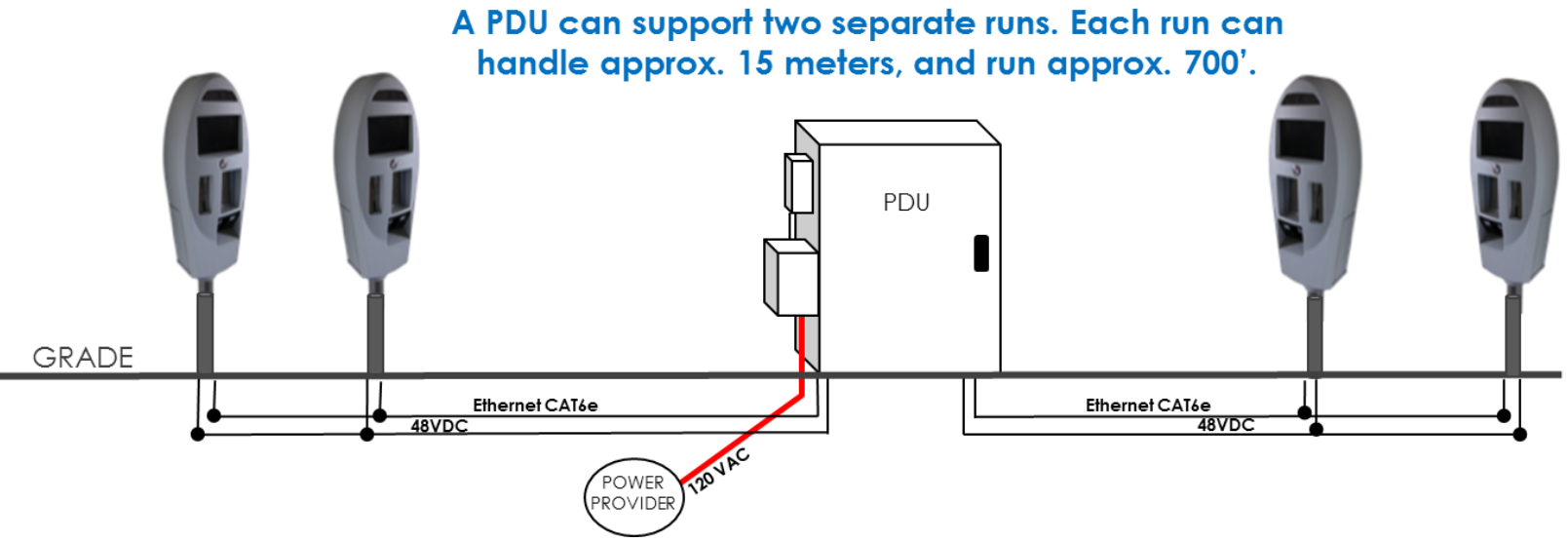
The low voltage run will connect to several meters in a daisy chain configuration and connect from meter to meter until the last meter in the string is connected.

- Cables are a 12AWG THHN stranded DC cable and a CAT6 Ethernet underground rated cable. Approximate thickness is .360" for the power cable and .250" for the data cable.
- Cables are underground rated and will not be housed in conduit.

Each string of meters requires an Ethernet data cable which terminates in the PDU via an RJ45 jack.

The Data Backhaul PDU site may require additional PVC sweep(s) to accommodate hardwire data connection input from a data provider.

SEE PAGE 7 FOR A MORE DETAILED DESCRIPTION AND FOR SAFETY INFORMATION REGARDING AC/DC CONNECTIONS.



Data Backhaul Cabinet(s):

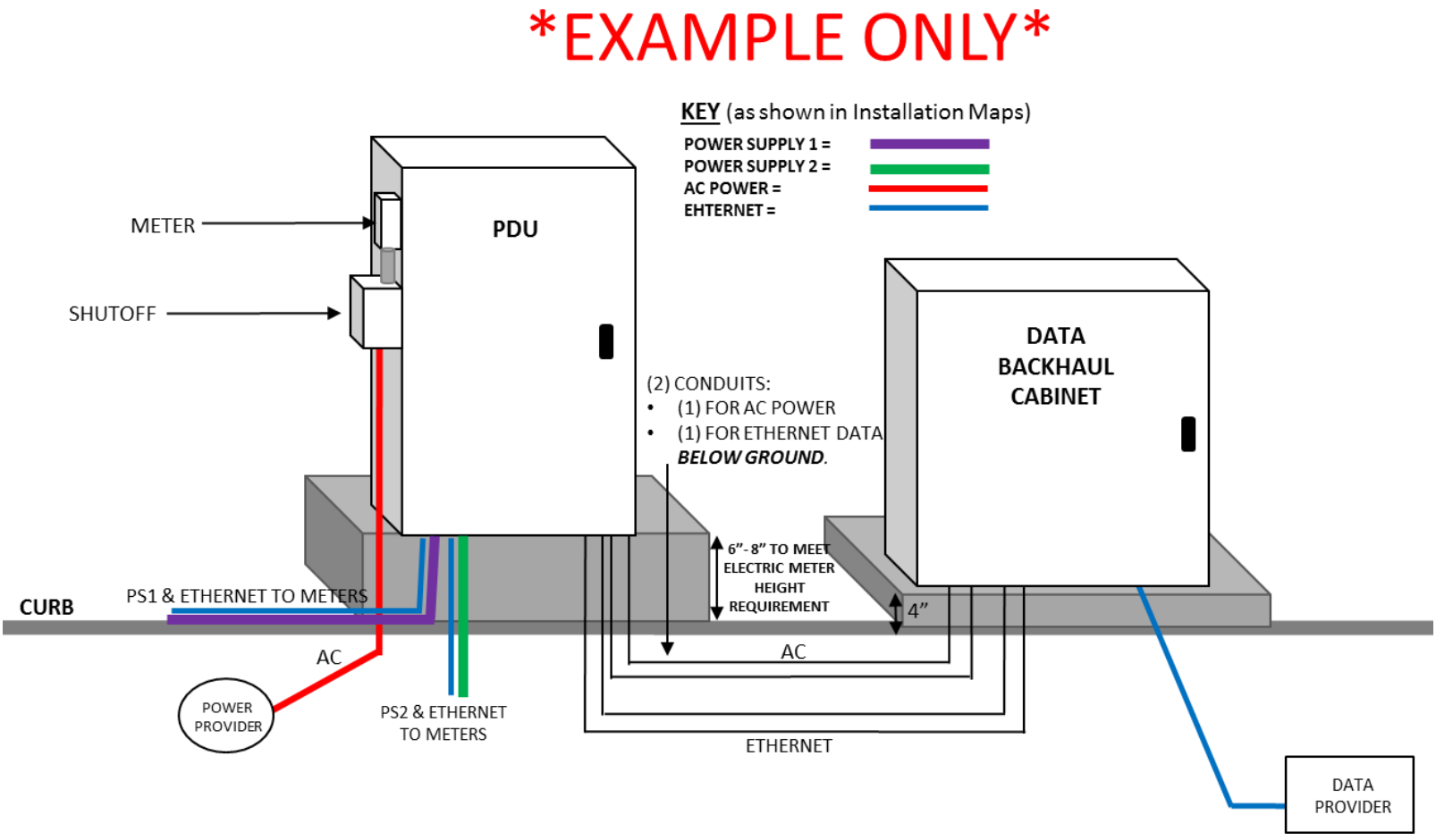
Data backhaul enclosures serve as a data demarcation point. The AC service for the data backhaul is ganged from the neighboring power PDU.

At a data backhaul location, provide underground sweeps between the PDU and the backhaul cabinet.

One sweep for power and one sweep for Ethernet.

The backhaul cabinet has an additional 2" sweep to accommodate the data provider connection out to the street or overhead.

MPS will supply a separate document which will provide further information & details regarding the Backhaul PDU/Cabinet and Wi-Fi setup.



PDU Connection Instructions & Safety Information:

Introduction:

The PDU (Power Distribution Unit), requires 86V-246V AC input and produces one or two, 48VDC outputs. The PDU also houses an Ethernet switch and optional backhaul communications such as a Wi-Fi and/or cellular modem.

The electronics within the PDU are pre-wired and housed within a NEMA 3R enclosure. The enclosure can be mounted outdoors or indoors.

Access points of the PDU need to be drilled to accommodate proper location of the input and output voltage feeds. Watertight connectors are required for outdoor applications.

Important Safety information:

Caution: Input 120VAC voltage may cause bodily injury. PDU should be installed and serviced by certified personnel only.

PDU input shall be protected by a separate line circuit and appropriately rated breaker.

Wiring:

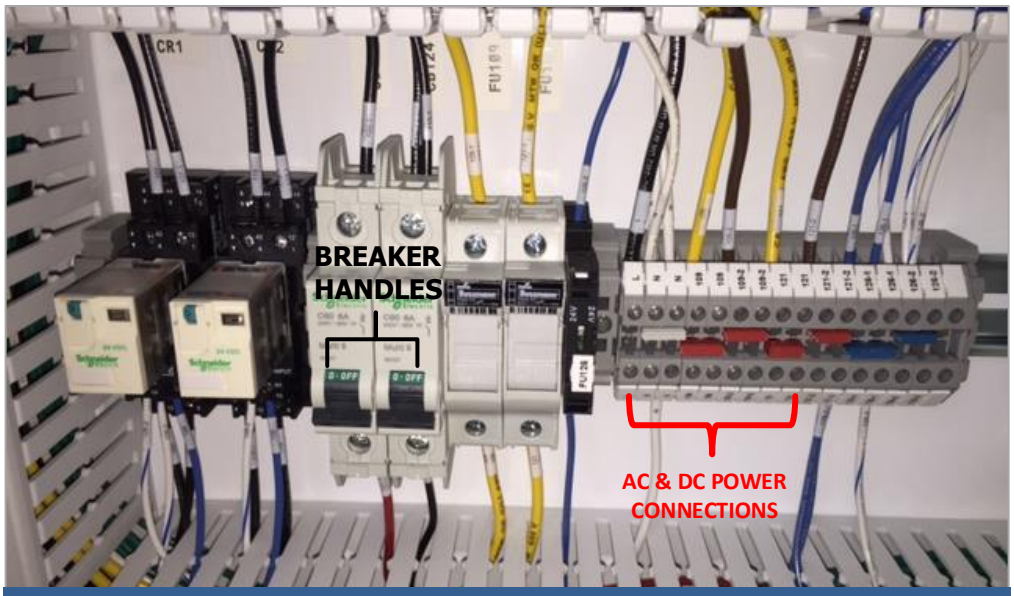
AC Voltage In:

Ensure that voltage main is on a dedicated circuit equipped with a 20A breaker.

Ensure that the breaker is in the 'off' position.

Feed wire from breaker output through a proper conduit and watertight connector into the PDU enclosure. Secure watertight connector.

- Connect Ground to Terminal Block.
- Connect line to 'L' on Terminal Block.
- Connect Neutral to 'N' on Terminal Block.



Connect AC Mains:	Connect DC Out to Meters:
Connect Ground to Terminal Block	Power Supply 1: +109/-109-2
Connect Line to 'L' on Terminal Block	Power Supply 2: +121/-121-2
Connect Neutral to 'N' on Terminal Block	

Technical Specifications for PDU:

Technical:

- Single phase AC voltage input
- Single or dual DC voltage outputs
- Single or dual data 10/100 Ethernet CAT6 inputs

Input Data:

- Input nominal voltage range: 100 V AC … 240 V AC
- AC input voltage range: 85 V AC … 264 V AC
- AC frequency range: 45 Hz … 65 Hz
- Current Consumption: Approx. 9.6A (120VAC)
  Approx. 4.8A (230VAC)
- Protective circuitry: Transient surge protection Varistor

Output Data:

- Nominal output voltage: 48VDC ± 1%
- Setting range of the output voltage: 30VDC … 56VDC (>48V constant capacity)
- Output current: 10A/20A (-25°C … 70°C)
- Derating: Above +55°C: 2.5% per Kelvin
- Efficiency: >91%

Environmental Specifications:

- Dimensions W x H x D (state of delivery): 35"x 24"x 12"
- Weight: 60lbs.
- Ambient temperature (operation): -25°C … 70°C (>55°C derating)
- Ambient temperature (storage/transport): -40°C … 85°C
- Max. permissible relative humidity (operation): 95% (at 25°C, no condensation)
- Vibration (operation): <15 Hz, amplitude ± 2.5mm in acc. with IEC 60068-2-6.
  15 Hz … 150Hz, 2.3g, 90 min.

Shock: 15g in all directions in acc. with IEC 60068-2-27.

PDU Mount Details:

PDU cabinet requires a cut-out to accommodate the underground PVC sweeps.

PDU and pad are to be mounted parallel to the road surface at a minimum of a 24" setback. Keep setback from an overhead power line pole to a minimum of 5'.

The concrete pad will provide an access point for the underground voltage feeds and minimize environmental breeching of the electronics.

Based on electrical meter height requirements, provide cement base to meet the requirements.

Excavate and create form for concrete pedestal.

Sweeps are necessary to accommodate underground requirements and low voltage requirements for the parking meters.

Install Necessary Sweeps:

- All sweeps are underground (photo example on pg. 11).
- Provide minimum 1"- 2" diameter sweeps for all cabling.
- Identify and mark all sweeps and where the sweeps will stub out.
- High voltage cable has its own sweep. Identify conduit size for the high voltage coming into the PDU.
- If external electrical meter is required, install the high voltage sweep such that the conduit emerges from the ground and connects to the side of the PDU enclosure.
- Sentry parking meter power (low voltage DC) and Ethernet cable may share the same sweep.
- Cluster remaining sweeps such that they enter the bottom cut-out of the PDU enclosure.
- If it is a data backhaul location, provide a dedicated sweep for the data cable.

Pour concrete and allow for setup drying time.

- At this time, anchor bolts can be installed in the pedestal. Anchor bolts can also be installed after concrete has set.

Prepare PDU for installation by cutting out an access point for the sweeps. Leave enough metal for mounting at all four corners.

Drill mounting holes at specified dimensions in the enclosure.

Install shutoff and meter pan (if required). (See **#1** in photo.)

Mount the PDU with the door facing the sidewalk. (See **#2** in photo.)

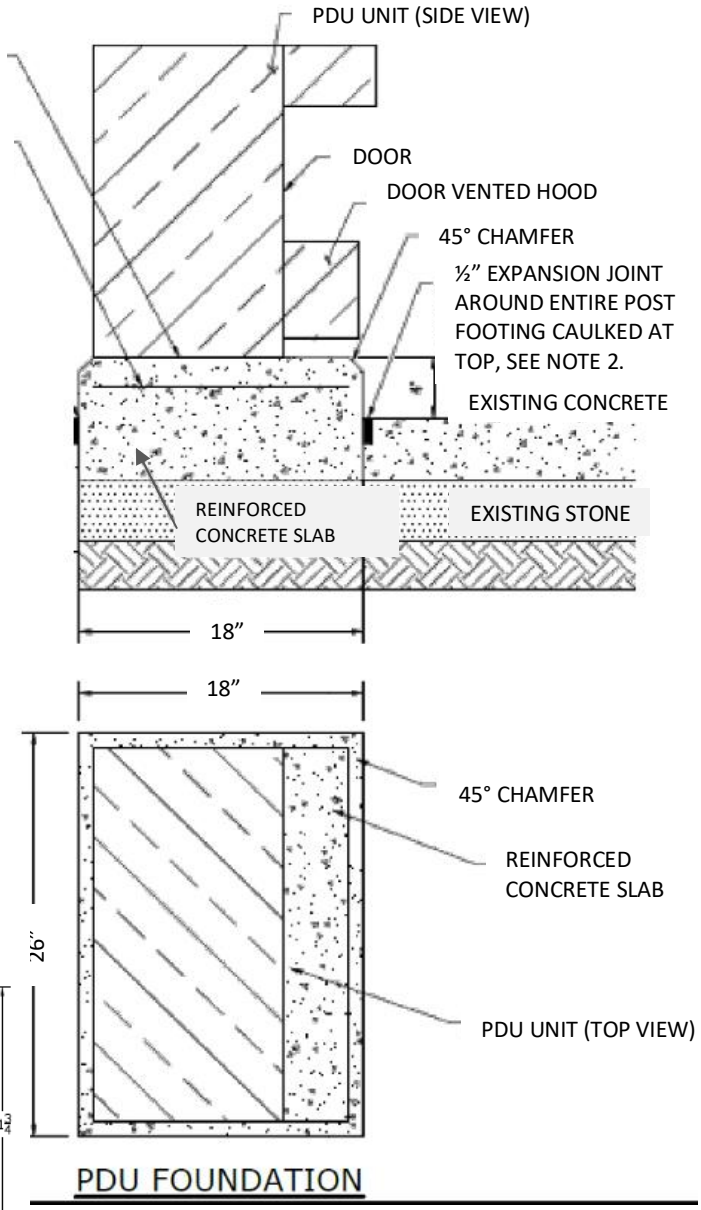
Pull service wire from utility company to the PDU and terminate. (See **#3** in photo.)

Schedule electrical inspection.

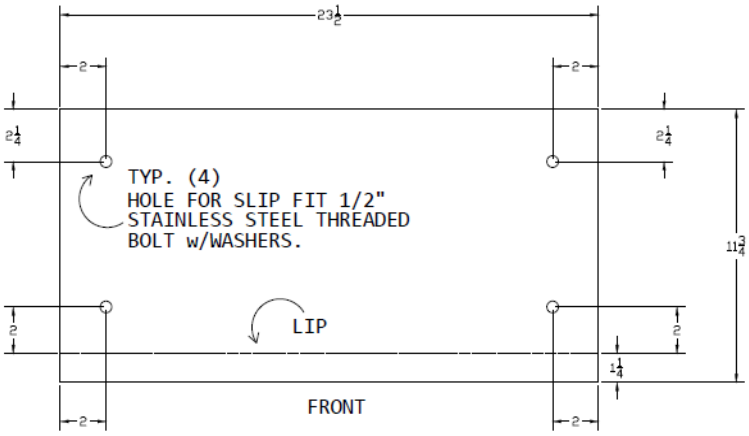
Mounting Specifications:

CONTRACTOR TO COORDINATE ANCHOR BOLT REQUIREMENTS W/MANUFACUTRER. ALL ANCHORS TO BE HOT DIPPED

#3 @ 12" O.C. TCP (PARALLEL & PERPENDICULAR TO SLAB)



CABINET MOUNTING HOLE LAYOUT



PDU HIGH VOLTAGE FEED:

PDU requires a high voltage 120VAC input supplied by an overhead drop, or underground hand-hole.

Schedule 40/80 PVC pipe is to be installed from PDU site to the utility connection. Adhere to utility diameter requirements.

Low voltage is described as 48VDC @ 20A maximum.

Schedule 40/80 PVC 1" min. sweeps to be to be installed from PDU site facing the first meter in the string in each direction.

The low voltage run will connect to several meters in a daisy chained configuration & connect from meter to meter until the last meter on the string is connected.

NOTES:

PDU & pad are to be mounted parallel to the road surface at a minimum setback of 24".

The concrete pad will provide an access point for underground sweeps & mounting posts for the cabinet.

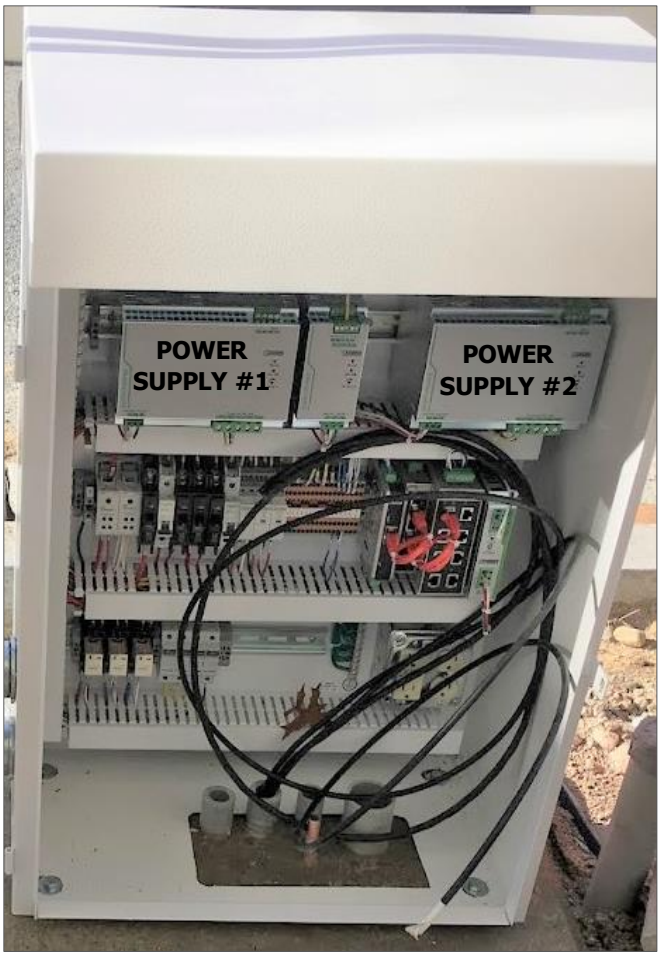
Mounting bolts are ½" galvanized steel.

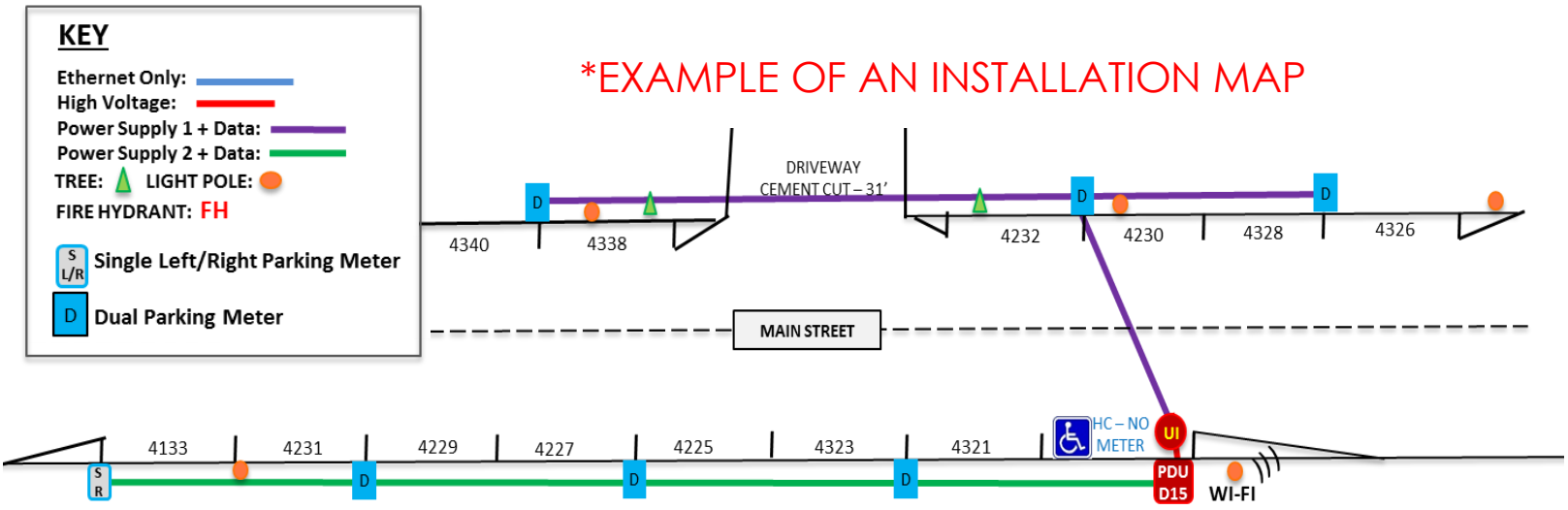
Photos of Power Distribution Unit (PDU):

Dual 20A PDU: (Example on right)

- A Dual 20A PDU provides power to 2 different meter strings.
- The power supply runs are marked in the Installation Maps provided by MPS. *
- POWER SUPPLY 1 is denoted with a purple line on map.
- POWER SUPPLY 2 is denoted with a green line on map.
- Once the wire is laid, mark each power supply to denote if it is #1 or #2.
- The wire used is 12AWG & is also grouped with the Ethernet wire.
- Therefore, when referring to Installation Maps, note that when it shows a Power Supply run, that includes data as well.

*Example of map shown below:





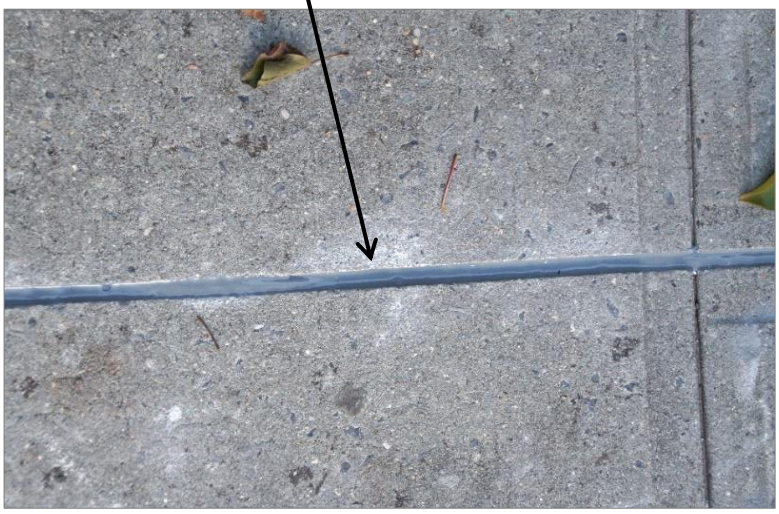
Micro Trenching Overview:

Once the PDU's have been installed, proceed to trenching for the meters.

MPS has perfected a thin, saw cut technology like the method used by major fiber optic companies.

- The saw cut is defined as ½" W x 1 ½"- 6" D **(or to local spec)**.
- The long, horizontal runs are to be between the curb and sidewalk or in the street where the asphalt meets the curb.
- Transitions from the long, horizontal run to each meter site will be a 90° cut to a perpendicular cut to the meter mounting area. (See diagram below.)

- Custom underground rated voltage and data cables are to be placed in the cut terminating at the PDU and each meter.
- After the wires are placed into the saw cut, a backer rod is placed on top of the wires. The backer rod is used to keep the cable at a specific depth during installation. It also helps to reduce the amount of epoxy used. Backer rod must be snug enough, so epoxy can spread evenly on top. ¾" backer rod for ½" W cut is recommended.
- Use epoxy to cover and secure the wiring and backer rod, and to remove any tripping hazard. **(When applied correctly and carefully, the saw cut & epoxy should look like this):**



General Guidelines for Micro Trenching:

When cutting the cement sidewalk or driveways, choose the least obtrusive path. For example, cut along an existing expansion joint.

Cut around trees, water mains, sewer caps, etc., maintaining a 5:1 bend ratio.

Maintain a safety zone around the cutting tool to protect the public. Minimize dust and dirt kickback to the local businesses and residents.

Water is used with the saw cutting to minimize dust. Clean up is necessary as you go along.

Cut up to each meter pole location, so that the cabling is covered by the bell cover of the new meter (see photo on right).

Use wire and epoxy specified by Municipal Parking Services and local code.

Important Epoxy Notes:

It is especially important when doing the saw cut that the correct width and depth are obtained. The backer rod provided should be a snug fit within the saw cut and should rest on top of the wire. If the cut is too big, the backer rod will "float" when the epoxy is applied.

Great care is a must when applying the epoxy. Roping/taping off the area to ensure pedestrians do not step in the epoxy is necessary. The epoxy can take 4-24 hours to dry (depending on outdoor temperature). Tissue paper can be used to reduce mess and accidental contact with epoxy (like what is used in road repair).

Applying epoxy is the final step of sealing up the saw cut. It needs to be as *neat and flush with the sidewalk as possible*. If too much is used, epoxy will overflow causing tools, snow removal, etc, to catch on the excess. Wire could then be exposed causing meter outage and tripping hazards to pedestrians.

Trenching/Saw Cut Details:

Within the municipality there are different substrates to install wire, including cement and asphalt.

Methodology for burying low voltage cable:

- Cement: The saw cut is ½" W x 1 ½" – 6" D **(or to local spec)**. The long, horizontal runs are to be next to the curb and run in a straight line.
- Asphalt: Cutting employs the same parameters as concrete cutting.

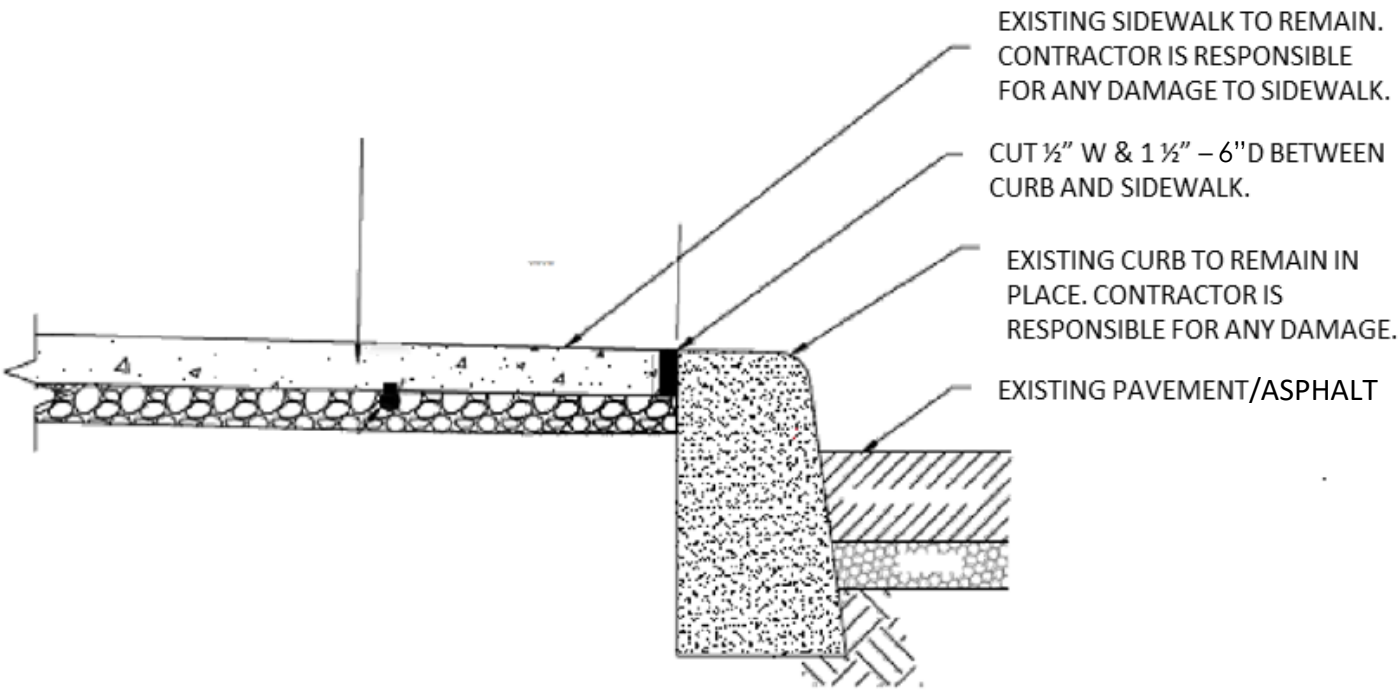
Transitions from the long, horizontal run to each meter site will be a 90° cut, if needed, to a perpendicular cut to the meter mounting area.

A 12AWG underground rated cable is to be placed in the cut terminating at the PDU and each meter site. A CAT6 underground rated cable is to be placed in the cut as well.

After the wire & cable are placed into the cement, a backer rod, and then an epoxy is used to cover the cut to secure the wiring and remove any tripping hazard.

A backer rod is used to keep the cable at a specific depth during installation and reduce epoxy use.

Saw Cut Specifications:



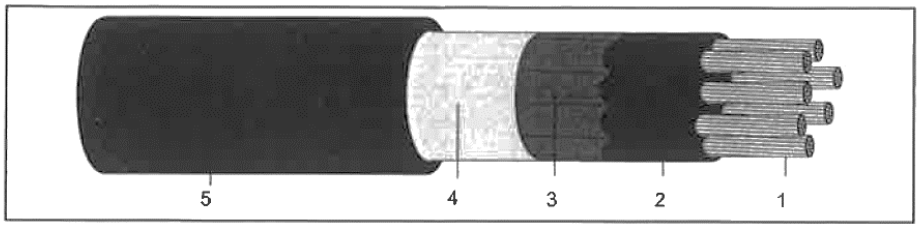
SAWCUT DETAILS

Power Cable (12AWG) Specifications:

POWER CABLE TYPE TC
THHN/THWN 600 VOLTS

07.CIR.01

DESCRIPTION:
1) Annealed bare Class C concentric strand copper conductors.
2) Polyvinyl Chloride (PVC) thermoplastic insulation.
3) Nylon protective covering.
4) Binder tape over core.
5) Overall flame-retardant PVC jacket.



APPLICATION:
Condumex Type TC cable may be used for power, lighting, control, signal, and communication circuits, in raceways, direct burial in earth, or in messenger. Type TC cable may be used in wet or dry locations and in the presence of oil and most chemicals in accordance with the National Electrical Code.

MAXIMUM OPERATING VOLTAGE:
600 volts

MAXIMUM CONDUCTOR TEMPERATURE:

Wet or Dry	75° C
Dry	90° C

FEATURES:
1) UL listed for direct burial.
2) Flame retardant passes UL 1277, 70,000 BTU flame test.
3) Sunlight resistant; can be installed outdoors.
4) UL listed as Type TC for power and control tray cable used in accordance with the National Electrical Code.
5) PVC jacket is UL rated 90° C and listed Oil Resistant I.
6) Acceptable for Class I, Division 2, Hazardous Location Applications. Type TX offers substantial cost savings over the previously required metallic sheathed cables.
7) Circuit identification; color coded per ICEA S-73-532 (table E-2 or Method S/B 4.)
7a) other color-coding methods are available, based on ICEA S-73-532.

SPECIFICATIONS:
UL 1277 and UL 83

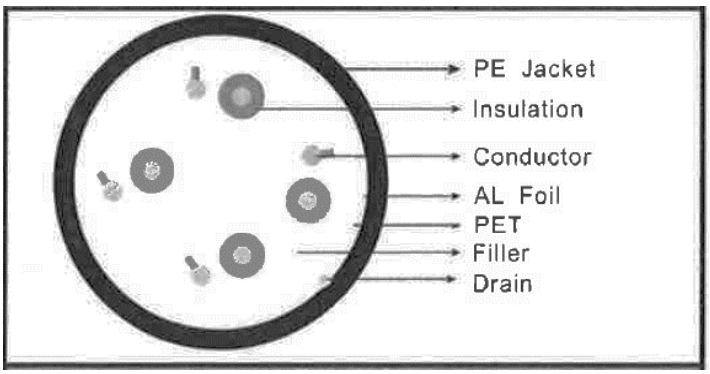
HOW TO ORDER:
Condumex Tray Cable Type TC/THNN, 600 volts, number, and size of conductors.

Size/AWG	Number of Strands	Number of Conductors	Jacket Thickness mils	Overall Diameter inches	Net Weight lb/Mft
		2	45	0.34	68
		3	45	0.36	87
		4	45	0.40	109
14	19	5	45	0.43	130
		7	45	0.46	167
		9	60	0.56	234
		12	60	0.63	285
		16	60	0.67	335
		2	45	0.38	90
		3	45	0.40	119
		4	45	0.43	154
		5	45	0.46	173
12	19	7	60	0.55	247
		9	60	0.64	326
		12	60	0.71	400
		16	60	0.76	485
		2	45	0.45	139
		3	45	0.47	180
		4	60	0.55	247
10	19	5	60	0.60	178
		7	60	0.65	367
		9	60	0.75	480
		12	80	0.89	637

Dimension and weights shown are nominal, unless otherwise indicated, and subject to manufacturing tolerances.

CATEGORY 6E DIRECT BURIAL SHIELDED OUTDOOR CABLE

Data Cable Specifications:



23 AWG Direct Burial Shielded Outdoor High-Performance Cable

- ETL Listed Type OMX
- O(ETL) listed OMX
- ETL Verified to TIA-568-C2, and ISO/IEC 11801
- ROHS Compliant
- ATM 155 Mbps
- Ethernet 10BASE-T, 100BASE-TX, 100BASE-VG, 100BASE-T4
- 1000 Mbps 1000BASE-T Gigabit Ethernet™ (IEEE 802.3)
- 16 Mbps Token Ring™ (IEEE802.5)

Number of Conductor Pairs	4
Size	23AWG
Stranding	Solid
Conductor Material	Solid Annealed Bare Copper
Shield Material	AL Foil
Rip Cord	Yes
Insulation Material	HDPE
Insulation Overall Diameter	0.040 in. ± 0.0002 in.
Insulation Average Thickness	0.0088 in
Jacket	LDPE
Outer Jacket Avg Wall Thickness	0.023 in.
Outer Jacket Nom. O.D.	0.296 in. ± 0.008 in.
Nominal Weight	37.5 lbs.

Temperature Rating	Installation	-40° to +75° C
	Operating	-40° to +75° C
Tensile Strength	Before	≥ 19 Mpa
Elongation	Aging	≥ 300%
Aging Condition		100°C x 96 hours
	AŌer	≥ 80% of unaged
	Aging	≥ 50% of unaged

Pair 1	White/Blue	Blue
Pair 2	White/Orange	Orange
Pair 3	White/Green	Green
Pair 4	White/Brown	Brown

CATEGORY 6E 550MHz 23AWG 4PR FTP
UV RATED OUTDOOR DIRECT BURIAL
XXXXXXX O (ETL) US ****FT

Frequency (MHz)	AƩenuaϴon (dB/100m)	Return loss (dB)	NEXT (dB)	PS-NEXT (dB)
	Max.	Min.	Min.	Min.
1	2.03	20.00	74.30	72.30
4	3.78	23.01	65.27	63.27
10	5.95	25.00	59.30	57.30
16	7.55	25.00	56.24	54.24
20	8.47	25.00	54.78	52.78
25	9.51	24.32	53.33	51.33
31.25	10.67	23.64	51.88	49.88
62.5	15.38	21.54	47.36	45.36
100	19.80	20.11	44.30	51.30
200	28.98	18.00	39.78	37.78
250	32.85	17.32	38.33	36.33
350	39.79	16.30	36.14	34.14
550	51.76	14.92	33.19	31.19

Frequency (MHz)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	Delay (ns/100m)	ACR (dB)
	Min.	Min.	Max.	
1	67.80	64.80	570.00	72.70
4	55.76	52.76	552.00	61.40
10	47.80	44.80	545.38	53.35
16	43.72	40.72	543.00	48.69
20	41.78	38.78	542.05	46.31
25	39.84	36.84	541.20	43.82
31.25	37.90	34.90	540.44	41.21
62.5	31.88	28.88	538.55	31.98
100	27.80	24.80	537.60	24.50
200	21.78	18.78	536.55	10.80
250	19.84	16.84	536.28	5.48
350	16.92	13.92	535.92	-3.65
550	12.99	9.99	535.54	-18.57

Values above 250MHz are information only.

Maximum Conductor DC Resistance @ 20° C	≤ 9.5 Ω/100 Meters
Maximum DC Resistance Unbalanced @ 20° C	≤ 2.5%
Maximum Pair-to-Pair Ground Capacitance Unbalanced	≤ 330pF/100 Meters
Characteristic Impedance (1 ~ 350 MHz)	100 ± 15Ω
Mutual Capacitance	≤ 5.6nF/100 Meters
Maximum Delay Skew	≤ 45nS/100 Meters

Part #	Color	Put-up
6ESOSP BK -2	Black	1,000’ Reel

16

Sentry™ Meter Pole Installation:

Sentry Meters will be mounted on top of a custom pole designed specifically for the Sentry Meter. MPS has 2 pole types:

- Standard Pole – Consists of (2) pieces:
  1) Inner pole is bolted to the concrete. Hilti HIT-Z Rod ½" x 6 ½" bolts may be used.
  2) Outer pole is placed over the inner pole, bolted in place, and plumbed for vertical accuracy.
- ADP Pole Adapter – Consists of (3) major pieces:
  1) ADP (pictured below): A device used when existing concrete is too damaged to bolt to and/or when the sidewalk consists of paver bricks, or when using existing pole site.
  2) Inner pole is slightly shorter than the Standard and is bolted to the ADP.
  3) Outer pole (same as Standard) is placed over the inner pole, bolted in place, and plumbed for vertical accuracy.

A Pole Adapter (pictured below), is supplied by MPS to allow re-use of an existing pole site and to minimize the need for new concrete.

Standard Pole: Inner & Outer

ADP Top View

ADP Side View

ADP & INNER POLE BOLTED TOGETHER

NOTES: Replacement or installation of a concrete support for meters in a grassy area will consist of a 12" SONA tube, concrete filled, minimum 24" D below grade, or a 24" x 24" x 12" pad.

Existing parking meter poles vary substantially from location to location. Therefore, MPS recommends that *all* meter poles are removed and new MPS poles are installed.

Existing poles will be removed by cutting flush with the grade (instructions on next page).

New poles are to be centered on the site where the legacy meter was located.

12AWG wire installation may commence once each meter site has been clearly defined and marked.

Instructions for Pole Installation Using Existing Pole Site:

MPS will provide a Pole Adapter Kit. Each kit includes:

- (1) Adapter – "ADP" for mounting a new pole to an old pole.
- (1) Short base inner pole.
- (4) Stainless mounting studs with washers, lock washers and nuts.
- (1) Stainless center draw bolt. ½ - 13 x 6 with washer.
- (16) Stainless leveling washers.

Step One:

Cut the old meter pole off flush with the ground as close as you can and remove any concrete *inside* of the pole at least 5 ½" down. An air/electric long chisel tool is recommended for this task.

Step Two:

Grind the remaining part of the pole completely flush with the ground to ensure proper fit.

Step Three:

When installing the ADP, line up the space cut out of the ADP, with the cut in the sidewalk. You **MUST** use a pry bar or an equivalent flat sided object to ensure you do not damage the threads on the studs, keeping it as low as possible as shown at right.

IMPORTANT: If a bar is NOT used to keep the ADP from turning while tightening, the center draw bolt or the welded nut on the bottom of the ADP can fail or seize up.

Use washers for leveling when mating pole to adapter.

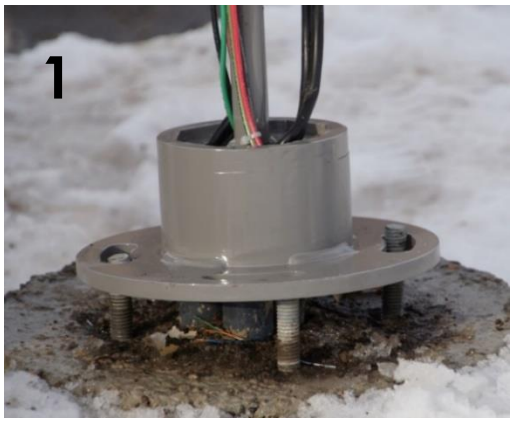
Mount the pole and meter head.

IMPORTANT: The center draw bolt on the ADP must be torqued to 35' lbs. And then tightened ½ turn!

Installing Meter Poles & Wire Threading Instructions:

The pole used to mount the Sentry meter is an assembly which is secured by a 5/16" hex head bolt. Remove the hex head bolt, lift and remove the outer portion of the pole.

Fish the power and data cables through one or both openings at the top of the bell housing. Place the slotted base over the ½" threaded studs exposed from the concrete or ADP Adapter (photo 1). **Take care not to pinch any wires underneath the base.**



EXAMPLE

Add flat washers, lock washers, and nuts to secure mounting pole in rough rotational location. Stud mounting is slotted to allow for proper rotational adjust after the head is installed. Plumb the pole with shims if necessary (photo 2).

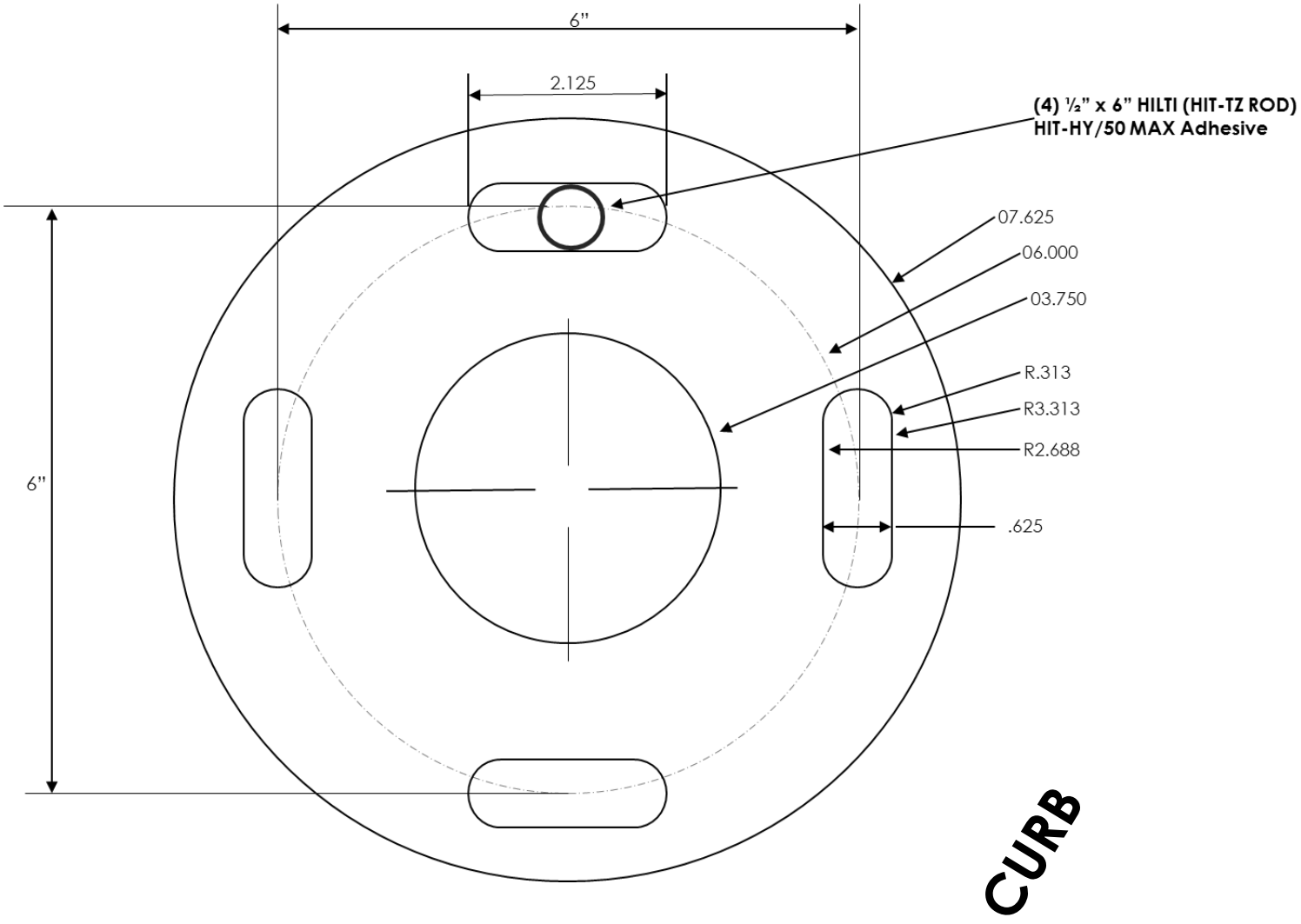
***EXAMPLES**

Slide the outside of the pole over while fishing the power and data wire through (photo 3). Ensure that the head mounting bar is perpendicular to the parking stall so that the face of the meter is parallel to the parking stall after installation. Secure the outer portion of the pole to the inner portion of the pole with the 5/16" hex head bolt. **Torque to 50lbs/ft.** **Again, be aware of pinching any wires.**

IMPORTANT: All wires MUST come up the right side of the pole (when facing the street).

Pole Specifications:

Pole Dimensions (H x Diameter):	36" x 2 3/8"
Pole Weight:	30 lbs.
Diameter of Pole at Base:	8.5"
Mounting Slot Center to Mounting Slot Center:	6"
Mounting Slot Width:	5/8"
Mounting Slot Length:	2 1/8"
Bottom of Platform to Top of Wiring Cover:	2.75"
Wiring Cover Height:	2.75"
Wiring Cover ID:	3.5"



Sentry Meter Head Mount & Wiring:

Locate the correct meter box for the parking stall(s). It is important to refer to the Installation Maps for this step. The site plan must be followed so that the correct meter is placed in the correct location.

There are 4 different models of our Sentry Meter:

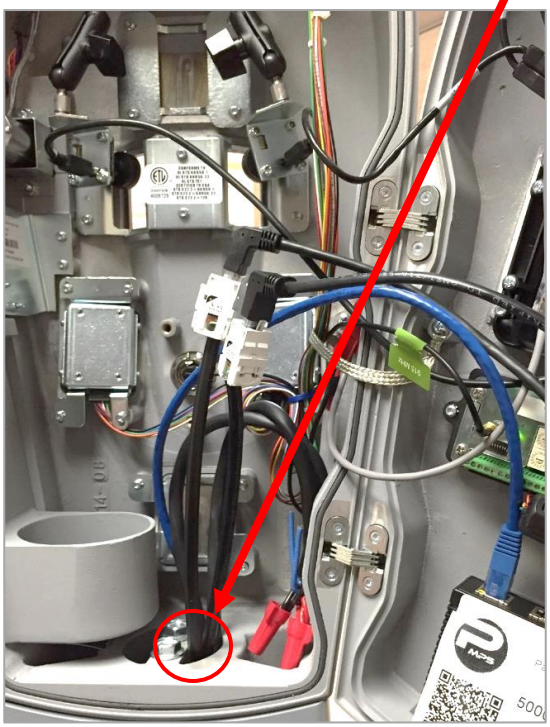
1) Dual (services 2 spaces)
2) Single Left (services 1 space)
3) Single Right (services 1 space)
4) Single Center (services 1 space)

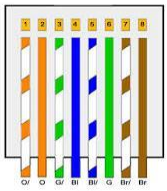
Each meter comes with an Accessory Kit located inside the meter box. This kit includes:

- ✓ (2) Bolts for securing the meter head
- ✓ (1) 48VDC power cable
- ✓ (2) Ethernet patch cables
- ✓ (3) Wire nuts
- ✓ (2) RJ45 female jacks
- ✓ (1) Grounding wire

ACCESSORY KIT

Both the incoming and outgoing power and data cables must pass through only one of the openings. Cabling must come up the right side opening of meter to allow the coin door to operate freely (see photo with red circle below).





Cut data cables to 10" – 12", strip outer sleeve, and attach RJ45 connector by using crimping tool. Use 568B wiring pin out.

Install (1) 12" CAT6 patch cable from female connector of either cable, to a port in the Lantronix.

Install (1) 12" CAT6 patch cable from remaining female connector to a port in the Lantronix (shown at right).

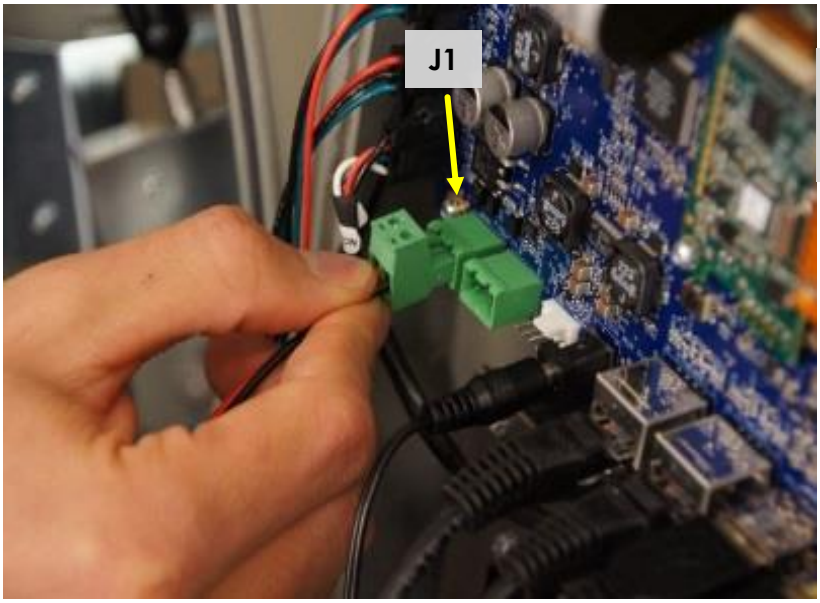
Cut power wires to specified length of 10"- 12", strip outer sleeve and attach power wires to power pigtail using wire nuts.

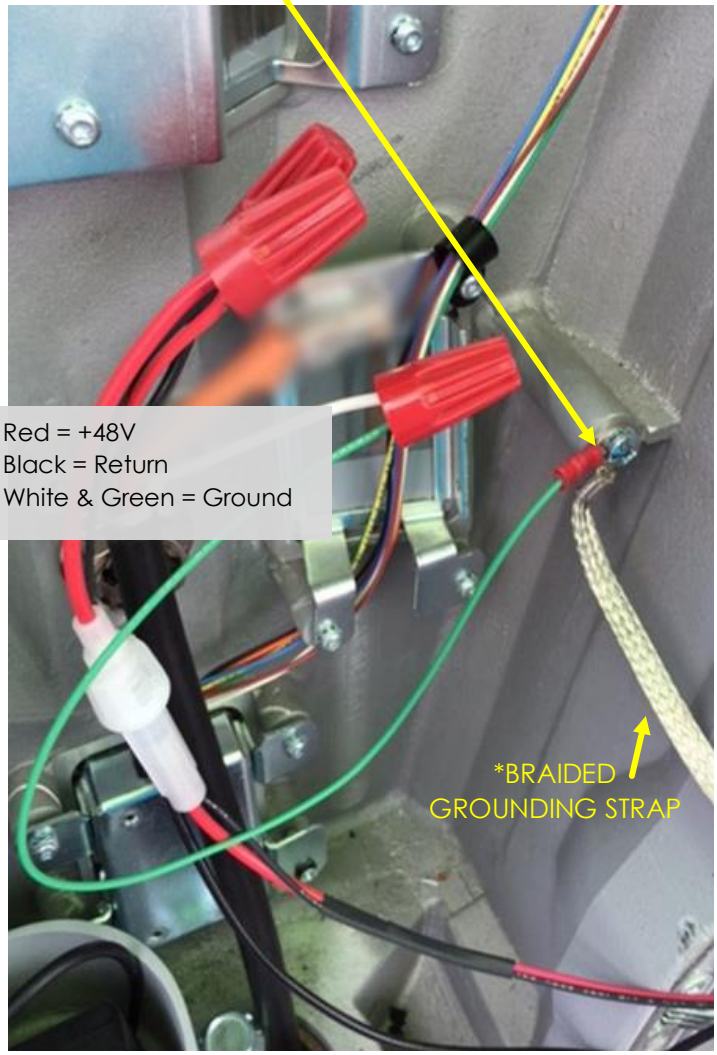
Incoming, outgoing, and power pigtail share the same wire nut.

Attach green grounding wire to braided grounding strap* inside meter (as shown). Wire nut the other end to white ground wire.

When wiring is complete, plug the green connector into **J1** on the carrier board.

Bundle all cabling neatly so that it clears the coin jar and does not get in the way of any cameras. (*Tuck behind braided grounding strap.)





Vehicle Sensing System:

Each parking stall requires a vehicle sensing system. This system includes:

- (1) Parking sensor or "puck" per parking stall.
- (1) Gateway sensing device already located inside each meter.
- Pucks and gateways are electronically bound (wirelessly) so that they work together.

IMPORTANT: Before beginning the installation of pucks, it is necessary to coordinate traffic control with the city, and ensure the power and data are connected.

Installing the Puck:

A 3" W x 2" D circular hole is cut out of the asphalt.

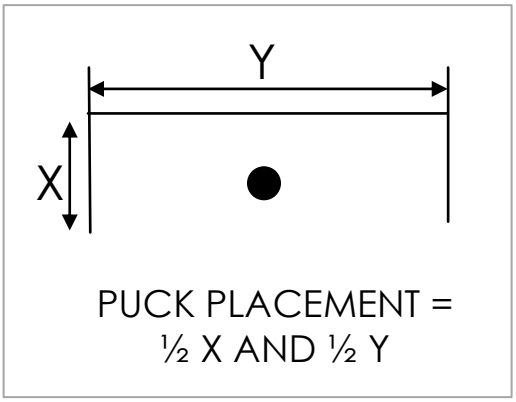
Before placing the puck into the hole, ensure:

- Placement: Double check the mapping system (will be provided by MPS at time of installation) to ensure the correct puck is being used that corresponds to that meter.
- Battery side needs to be facing up (see below).
- The end of the antenna needs to point in the direction toward the meter (see below).

***After proper placement is confirmed by an MPS employee*, epoxy is poured over the puck to keep the puck in place.** Epoxy is provided by MPS.

Example of Puck Orientation for Dual Space Meter: **(orientation only/not to scale.)**

*Note the position of battery & antenna. Antenna should be oriented towards meter & battery side up.



23

5/27/2020

Sentry® Parking System

Installation Guide for Parking & SafetyStick

Rev 1.1

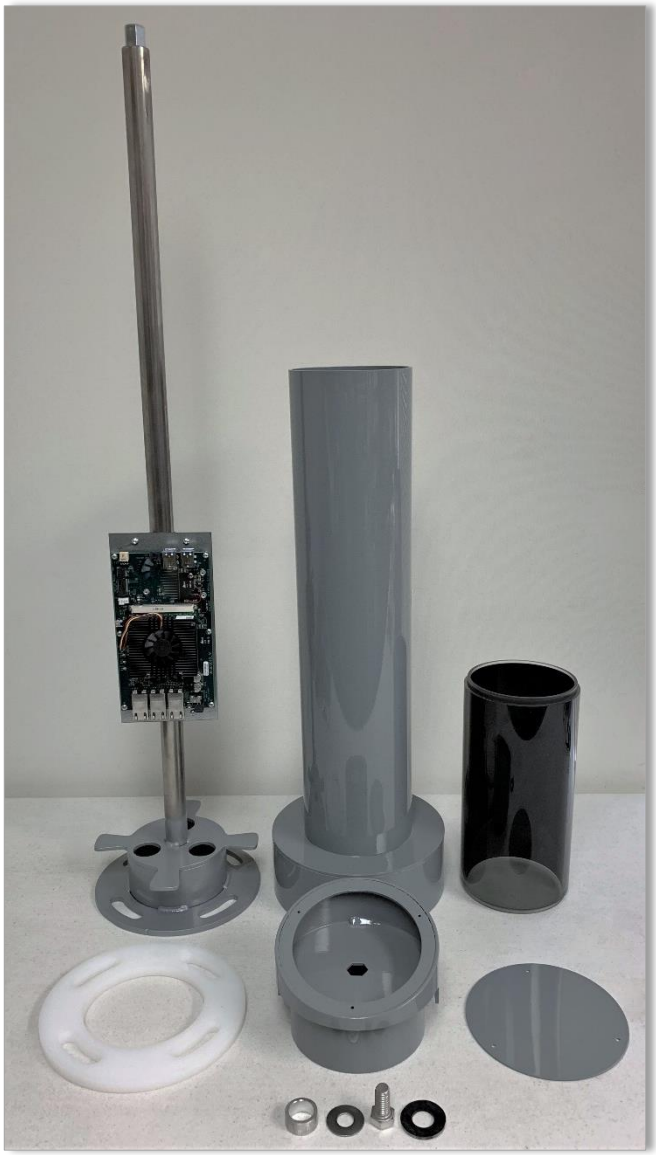
Contents

Installation of the MPS Parking & SafetySticks*:

The ParkingStick must be terminated with a 12/3 stranded wire and a CAT5/6 Ethernet wire. When at the middle of the string, the ParkingStick will have two sets of 12/2 and Ethernet cables entering and exiting the device.

The ParkingStick will be bolted to the concrete with (4) 3/8" Redhead cement anchors and nuts. The ParkingStick is oriented so that when mounted, the electronics board faces the street and is parallel with the curb. The camera window must be mounted so that the lighter side of the film points towards the street. The top finishing cap will have the high side pointing to the street and slope down towards the sidewalk.

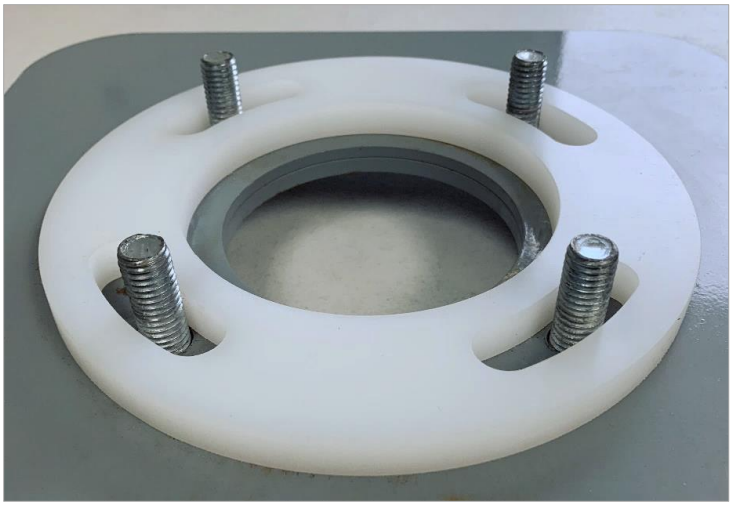
*The MPS ParkingStick and the SafetyStick are both the same form factor.



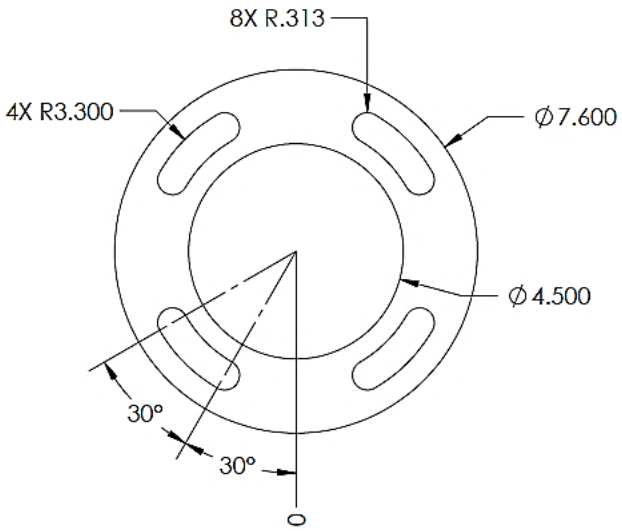
Steps for Installation:

Drill concrete and install Redhead anchors. Orient the bolting pattern so that the closest two holes to the curb are equidistant from the curb.

Install the plastic spacer.



8" OD Base Plate



Feed the wires up through the hole of the ParkingStick hub while installing the Stick.

Ensure that the Stick is level and perpendicular. If not, shim with washers.

Secure Stick to the sidewalk with washers and nuts.

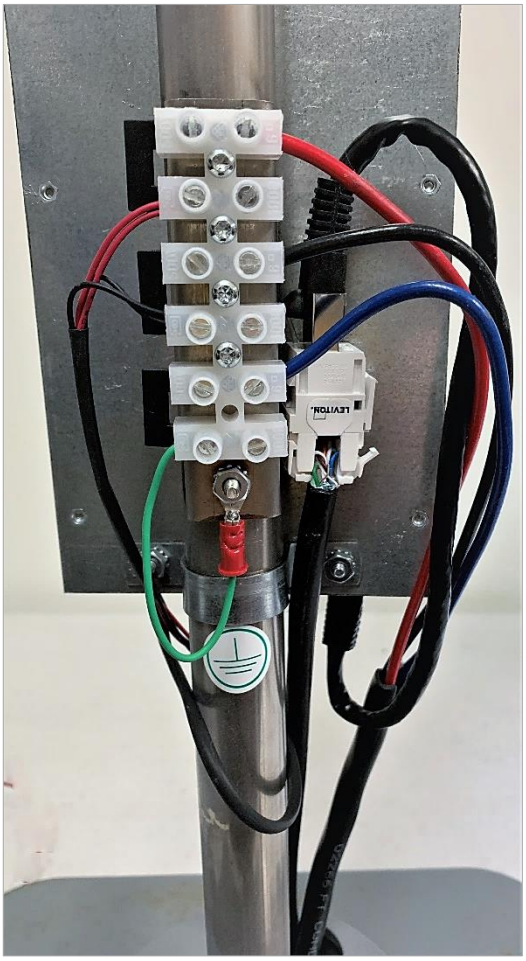
NOTE: Metal base in photos is for temporary installations only.

Steps for Installation Continued:

Terminate CAT5/6 cables with Ethernet jacks.

Install short, 1' Ethernet cables from the jacks to any port on the electronics board.

Terminate 12/3 wires to terminal block. Red is DC+ (top two lugs), black is DC- (middle two lugs), and the earth ground is the bottom two lugs on the terminal block.



Slide the outer shell over the inner pole until the base mates with the tabs of the inner pole.

Steps for Installation Continued:

Install camera window. The window is tinted lighter on one side, and darker on the other. Ensure that the lighter half of the tinted glass faces the street.

LIGHTER, STREET FACING SIDE

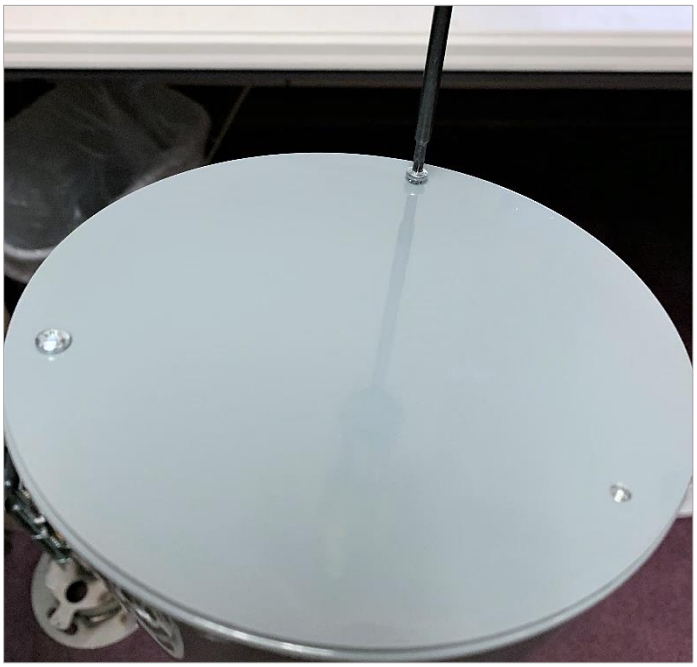
SIDE VIEW OF LIGHT & DARK

Final Installation Steps:

Install the top cap, ensuring the tall side faces the street.

Install rubber washer, spacer, tightening washer and bolt. Torque value TBD.

Install top finishing plate with three security Torx screws.



CITY OF FLINT

SPECIAL PROVISION
FOR
INSTALL TREE GRATE

COF:WTI 1 of 1 1-31-2022

a. Description. The work consists of providing all labor, materials and equipment required to furnish and install high density polyethylene (HDPE) grates. Each tree grate shall be 60” x 60”.

b. Materials. Tree grate and frame must be of HDPE in accordance with ASTM D-638. Ensure grate pattern complies with ADA pedestrian requirements. All tree grate castings must be manufactured true to pattern and component parts must fit together in a uniform manner. Ensure castings is free of all defects. Furnish tree grates in color as selected by Owner. Provide the fasteners, and all other hardware, required for installation per the manufacturer’s recommendations.

1. Tree Grate. Provide HDPE tree grate from following supplier or an approved equal:

Product Name	Supplier	Telephone No.
5’ Combo PolyGrate	Structural Plastics	800.523.6899

c. Construction.

1. Set the grates flush with the top of the sidewalk and secure with fasteners as provided and directed by manufacturer. Clean any foreign matter from the grates prior to setting.

2. When requested by the Engineer, furnish certification regarding the compliance of materials incorporated in the work.

3. Submit complete shop drawings for this item in Portable Document Format (PDF) that allows commenting.

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**
Tree Grate, Install, Special	Each

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIXING PORTLAND CEMENT CONCRETE

CFS:JFS 1 of 1 APPR:CPM:TEB:12-17-21
FHWA:APPR:12-20-21

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

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

a. Cementitious Materials. Provide cementitious materials within -2.0 percent to +5.0 percent of the required weight.

b. Aggregates. Provide aggregate within ±3.0 percent of the required weight.

c. Water. Provide net water to not exceed the required water quantity and the required maximum water/cementitious ratio (w/cm).

d. Air Entraining Admixtures. Provide the necessary quantity or dosage rate per 100 pounds of cementitious material to achieve the required air content of fresh concrete.

e. Other Admixtures. Provide water-reducing and other admixtures within ±3.0 percent of the required quantity.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:CPM 1 of 2 APPR:TES:JFS:05-19-20
FHWA:APPR:05-27-20

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

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:CPM 1 of 4 APPR:TES:JFS:05-28-20
FHWA:APPR:06-04-20

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

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

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

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

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

Table 1: Quality Index Parameter Specification Limits

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

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

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

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

PF_s = (QA Test Strength)/LSL

Where:

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

LSL = Lower specification limit (see Table 2).

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

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

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

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

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

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

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

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

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

Where:

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

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

ADJ = (OLPF - 1)(Price)

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

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

Where:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
DISSEMINATION OF PUBLIC RELATIONS INFORMATION

CFS:JJG 1 of 1 APPR:LFS:MRB:04-14-21
FHWA:APPR:04-14-21

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
VALUE ENGINEERING CHANGE PROPOSAL

COS:MRB 1 of 4 APPR:CJB:JJG:04-30-20
FHWA:APPR:05-06-20

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

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

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

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

1. A description of the difference between the existing pay items and the proposed changes, and expected benefits.

2. A set of conceptual plans and a description of proposed changes to the pay items.

3. An estimate of the anticipated cost savings or increase.

4. A date by which the Department must make a decision to avoid delays to the existing contract and obtain the cost savings. Also include information on the amount of time necessary to develop the full proposal and impacts to the progress schedule.

5. If impacting maintenance of traffic provisions, identify proposed changes and impacts to the Special Provision for Maintaining Traffic.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A VECP will be evaluated in accordance with the following:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Payment = (Net Savings)/2

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONSTRUCTION DOCUMENT MANAGEMENT

COS:RJC 1 of 3 APPR:JJG:LFS:03-27-20
FHWA:APPR:03-30-20

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 Docusign Signature Appliance. Digital signatures and software are provided by MDOT at no cost. Instructions on how to acquire and 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, retail point of sale scribble capture, cursive fonts or other non-conforming signatures are not permitted in lieu of digitally encrypted electronic signatures.

All fillable forms must retain the ability to be fillable upon submission to the Engineer. Submitted documents are not to be locked (preventing further changes to the form) when placing a digitally encrypted signature. Docusign Signature Appliance tracks all changes to a document after placing a digital signature (track changes) and this information is embedded into the document as part of the digital signature signing process. Locked documents do not allow additional processing (information entry) by the Engineer and all locked documents will be returned to the Contractor for resubmission.

Failure to submit documents utilizing the MDOT digitally encrypted electronic signature process (Docusign Signature Appliance) 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 is available at no cost to all contractors, suppliers and other vendors associated with the project. ProjectWise access is granted in two ways, a web based access portal or full version of the software installed on a company's computer. User account setup, installation details, and access to ProjectWise may be requested by sending an e-mail request to:

MDOT-ProjectWiseConst@michigan.gov

d. Contractor Authorized Requestors. Designate two authorized requestors at the preconstruction meeting. The authorized requestors are:

1. The only individuals that can request the Engineer to provide or withdraw ProjectWise access for this contract.

2. Responsible to designate contract roles in ProjectWise (submitter or read only).

3. Responsible for promptly notifying the Engineer of any ProjectWise user access changes for this contract.

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

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

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

MDOT-ProjectWiseConst@michigan.gov.

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

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

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

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

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

Complete the following actions:

1. Upload all documents into the corresponding Contractor In-Box folder.

   A. Ensure all documents are named correctly per the document naming conventions.

2. Select the "Change State" option and then select "Next" to submit the document.

3. When the email message appears please send to the Engineer, or their approved

representative, providing notification that there are new documents submitted.

The Engineer will review all documents added to these folders and move them to the appropriate document folder for further review, processing, or records storage.

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PREVAILING WAGE AND LABOR COMPLIANCE SYSTEM

COS:AS 1 of 2 APPR:RJC:MRB:03-24-20
FHWA:APPR:03-30-20

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

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

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

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

Program: LCPtracker
Login Website: http://www.lcptracker.net
General Information website: www.lcptracker.com

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

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

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

www.michigan.gov/mdot-esign

f. Contractor Preparation for Tracking Software:

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

www.lcptracker.com.

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

www.lcptracker.net

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

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

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

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

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

MDOT-LCPtracker@Michigan.gov

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:JJG 1 of 3 APPR:MRB:DBP:06-28-21
FHWA:APPR:06-28-21

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

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

All steel and iron products and manufacturing processes of the steel and iron material in a product, including but not limited to the following steps; smelting, melting, rolling, extruding, machining, bending, grinding, drilling, welding, galvanizing, and coating, must occur within the United States.

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 not predominantly (90 percent) steel and/or iron are not subject to Buy America. This may include commercially available off-the-shelf items including, but not limited to, controllers, hand dryers, faucets, hinges, light fixtures, etc.

These items are typically non-structural in nature and do not have an established or specified quality assurance and/or certification process. Provide documented certification that the manufactured product is less than 90 percent steel and/or iron.

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.

http://www.michigan.gov/mdot/0,1607,7-151-9622_11044_11367---,00.html

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.

Buy America certification documentation for products and materials designated as fully compliant with the Buy America requirements on the Qualified Products List (QPL), Approved Manufacturers, and Tested Stock Suppliers Lists will be maintained by the MDOT Construction Field Services (CFS) Division. Buy America certification for these fully compliant items does not need to be submitted by the Contractor, but a bill of lading, product label, or shipping record to document that the products are from the respective source is to be provided to the Engineer. Buy America certification documentation for items that are partially compliant will be required to be submitted prior to delivery or concurrent with material delivery and prior to incorporation, noting the value of foreign steel/iron. The use of the Department maintained Buy America lists and notations does not relieve the Contractor from responsibility of ensuring Buy America compliance. The Contractor is ultimately responsible for Buy America compliance.

The Buy America lists maintained by the Department are solely for the benefit of the Department and may not be relied upon by the Contractor. The Contractor is solely responsible for the Buy America requirements for steel and iron as set forth in the CFR.

The above requirements do not preclude a minimal use of foreign steel and iron, provided the total invoice cost of foreign material 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 total of the contract unit prices for items of road work and bridge work, any adjustments as provided for in the contract, and any assessment of incentive, disincentive or liquidated damages as provided for in the contract.

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
E-VERIFY

CSD:LFS 1 of 1 APPR:JJG:RJC:04-10-20
FHWA:APPR:04-13-20

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LABOR COMPLIANCE

COS:AS 1 of 3 APPR: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 under the Construction Field Services - Forms heading:

http://www.michigan.gov/mdot/0,1607,7-151-9622_11044_11367---,00.html

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

For the second and subsequent payments, the prime Contractor agrees to pay each subcontractor for the work associated with their subcontract no later than 10 calendar days from the date the prime Contractor receives payment from the Department.

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

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

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

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

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

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

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

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

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

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

1. Upon preliminary review, the Engineer finds the work completed in accordance with the contract, plans, and specifications; and,

2. Required documentation, including material certifications, payrolls, submission of 2124A, etc., has been received and reviewed and found to be acceptable by the Engineer; and,

3. Required subcontractor sworn statements and waivers of lien have been provided to the prime Contractor. The prime Contractor must provide notice to the Engineer if sworn statements and waivers of lien have not been received for completed work.

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

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

1. Delay or postpone payment from the time frames specified herein,

2. Process partial payment from the prime Contractor to a subcontractor or supplier,

3. Process partial payment from a subcontractor to a lower-tier subcontractor or supplier.

The unpaid portion will be held by the Department.

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

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

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

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

Independent of all procedures and requirements in this special provision the non-payment claimant has the additional option of submitting a lien claim to the MDOT Contract Services

Division. MDOT will notify the project surety of the non-payment issue. It is the responsibility of the surety to ensure that all legitimately due payments are made. The submission of a lien claim will not nullify or affect any other requirements, obligations or procedures in this special provision.

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

1. Issue payment to the subcontractor.

2. Issue payments to a subcontractor in the form of joint checks to the subcontractor and the subcontractor's lower-tier subcontractors and/or suppliers.

3. Issue payment directly to the subcontractor's lower-tier subcontractors or suppliers.

4. Request a negative estimate to withdraw the amount confirmed in the prompt payment violation.

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
NON-HAZARDOUS CONTAMINATED MATERIAL HANDLING AND DISPOSAL

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

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

b. Materials. None specified.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

COS:DMG 1 of 2 APPR:TWK:HLZ:02-26-20
FHWA:APPR:03-02-20

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

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

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

b. Materials. None specified.

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

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

Deficiencies are defined as one or more of the following:

1. Failure to install or construct SESC measures shown on the plans or as directed by the Engineer;

2. Failure to maintain the measures;

3. Failure to conduct earth change activities in a manner consistent with all applicable environmental permit requirements;

4. Failure to comply with the area limitations or the time limitations stated in subsections 208.03.A and 208.03.B, respectively, of the Standard Specifications for Construction.

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EROSION CONTROL, INLET PROTECTION, FABRIC DROP

COS:DMG 1 of 2 APPR:TWK:CP:03-11-20
FHWA:APPR:03-13-20

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

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

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

1. Siltsack Type B, Regular Flow, by ACF Environmental, Inc.

2. Inlet Pro Sediment Bag, Standard Flow, with optional foam deflector by Hanes Geo Components.

3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.

4. Basin Bag, Regular Flow by CSI Geoturf.

5. Flexstorm Catch-It and Flexstorm Pure used with filter bag types FX, FX+, FXO, PC, PC+ or IL.

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
AGGREGATE BASE COURSE

CFS:SAG 1 of 1 APPR:TEB:JFS:02-19-20
FHWA:APPR:02-19-20

a. Description. This provision modifies the layer thickness requirements for placing and compacting aggregate base course. Delete the 6-inch maximum layer restriction in section 302 of the Standard Specifications for Construction and replace with the following:

b. Materials. None specified.

c. Construction. Construct a test strip at the start of base work. Compact all layers to a uniform depth of not more than 10 inches (+3/4 inch). If the total plan base thickness exceeds 10 inches, construct the base in layers of equal thickness. 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 full depth.

d. Measurement and Payment. All additional costs associated with constructing aggregate base course in accordance with this special provision will be included in the related Aggregate Base pay item.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

CFS:TRC 1 of 1 APPR:JWB:KPK:02-19-20
FHWA:APPR:02-19-20

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

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

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

c. Construction. None specified.

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:KPK 1 of 2 APPR:JWB:CJB:02-26-20
FHWA:APPR:03-02-20

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

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

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

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.

- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

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

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

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

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

used in determining the binder selection.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MARSHALL HOT MIX ASPHALT MIXTURE

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

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

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

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

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

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

Pay Item	**Pay Unit**
HMA, (type)	Ton

Table 1: Mix Design Criteria and Volumetric Properties

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

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

Table 2: Aggregate Properties

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

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

CFS:KPK 1 of 7 APPR:CJB:JWB:02-26-20
FHWA:APPR:03-13-20

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

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

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter			Top and Leveling Course		Base Course	
Number	Description		Range 1 (a)	Range 2	Range 1 (a)	Range 2
1	% Binder Content		-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)		Below 10%	Below 15%	Below 10%	Below 15%

a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).
b. Deviation from JMF.

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

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

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

otherwise on HMA application estimate.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Option 1 - Direct Density Method

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

Option 2 - Roller Method

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 3: Penalty Per Parameter

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

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

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

Table 4: Calculating Total Price Adjustment

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

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

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

Roller #1 Type:

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

Roller #2 Type:

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

Roller #3 Type:

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

Summary: _____

_____

_____

_____

_____

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT ACCEPTANCE FOR JOINTED PLAIN CONCRETE PAVEMENT

CFS:JFS 1 of 1 APPR:JAB:TES:04-02-20
FHWA:APPR:04-03-20

a. Description. This special provision defines the requirements for pavement acceptance that are in addition to those specified in section 602 of the Standard Specifications for Construction. When applicable, the condition for initial acceptance of the pavement in accordance with the Materials and Workmanship Warranty still apply. This special provision does not relieve the Contractor of responsibility for performing the work in accordance with subsection 107.11 of the Standard Specifications for Construction.

The Engineer will inspect the completed pavement for any visible indication of cracking. If cracking is found, decisions regarding corrective actions will be made jointly by the Engineer and the Construction Field Services Division, in accordance with Table 1.

All costs for the work required to repair or replace any unacceptable pavement are the responsibility of the Contractor. No time extensions will be granted to the Contractor for any required repair work to meet the requirements of this special provision.

For purposes of this special provision, a crack is defined as a fissure of varying length and orientation in the pavement that extends to some measurable depth. A crack may be a single entity or found in groups or clusters with possible associated distress features.

Table 1: Acceptance Factors and Corrective Action

Acceptance Factor	Length	Extent	Severity	Corrective Action (a)(d)
LC	any	single/multiple	all	Replace slab (b)
TC - ≥ 1.5 ft. from TJ	any	single/multiple	all	Replace slab (b)
TC - < 1.5 ft. from TJ	any	single/multiple	all	Replace joint (c)

LC = longitudinal crack TJ = transverse joint
TC = transverse crack

a. Repair must establish an acceptable transverse load transfer of efficiency greater than 90%.
b. An appropriate corrective treatment (based on the specific crack's characteristics, its location relative to a longitudinal or transverse joint, and the corrective treatment's contribution toward the pavement's intended service life) may be proposed by the Contractor in lieu of full slab replacement. The Contractor's corrective treatment proposal is subject to approval by the Engineer.
c. Full-depth PCC repair. FDR must be 6 feet long, minimum, by the entire lane width in accordance with Standard Plan R-44 Series. Install contraction joints (Type Crg) at both transverse joint locations.
d. Do not overcut into the adjacent lane or shoulder.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MOBILE ATTENUATOR

COS:CRB 1 of 4 APPR:CT:MRB:04-29-20
FHWA:APPR:05-05-20

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 Typicals, 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, luminescent installations, etc. Mobile attenuators are not intended to be used for the removal or installation of special markings.

Mobile attenuators cannot be mounted on the vehicle or equipment used by personnel to complete aerial work. Mobile attenuators cannot be used as a temporary/permanent barrier ending except during replacement of damaged temporary/permanent barrier ending. 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, and also 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 other contract documents.

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 *National Cooperative Highway Research Program Report 350 (NCHRP 350) Test Level 2 (TL-2) or Test Level 3 (TL-3*), or *Manual for Assessing Safety Hardware (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 miles per hour (mph) or less. TL-2 mobile attenuators are prohibited for use on all freeways, 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 freeways, 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.

Provide 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, provide 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, provide documentation to the Engineer indicating the manufacturer's bottom height recommendations and tolerances.

- Ensure the mobile attenuator is parallel (level) with the roadway surface.

- Provide 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, and also 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 3 days of the incident.

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

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

Pay Item	**Pay Unit**
Mobile Attenuator	Each

The Engineer will pay for the maximum number of mobile attenuators deployed per the Maintaining Traffic Typicals, maintenance of traffic plans or other contract documents 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 will 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 the repaired/replaced attenuators inspected by the Manufacturer/Supplier to ensure that the units are in good working order. Documentation of the inspection is to be provided to the Engineer prior to implementing the mobile attenuators for use.

3. Provide a crash report from the enforcement agency involved in the accident investigation.

4. Pictures of the accident scene and damage to the mobile attenuator are forwarded to the Engineer.

5. The attenuator repair or replacement will be 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. Provide to the Engineer a detailed invoice from the Supplier showing material costs for replacement or repair for payment. The repair or replacement cost must not exceed 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 put 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 50-55 45	175 feet 150 feet 100 feet
12 Tons (Stationary Operation)	60-70 50-55 45	50 feet 25 feet 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 Typicals (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.

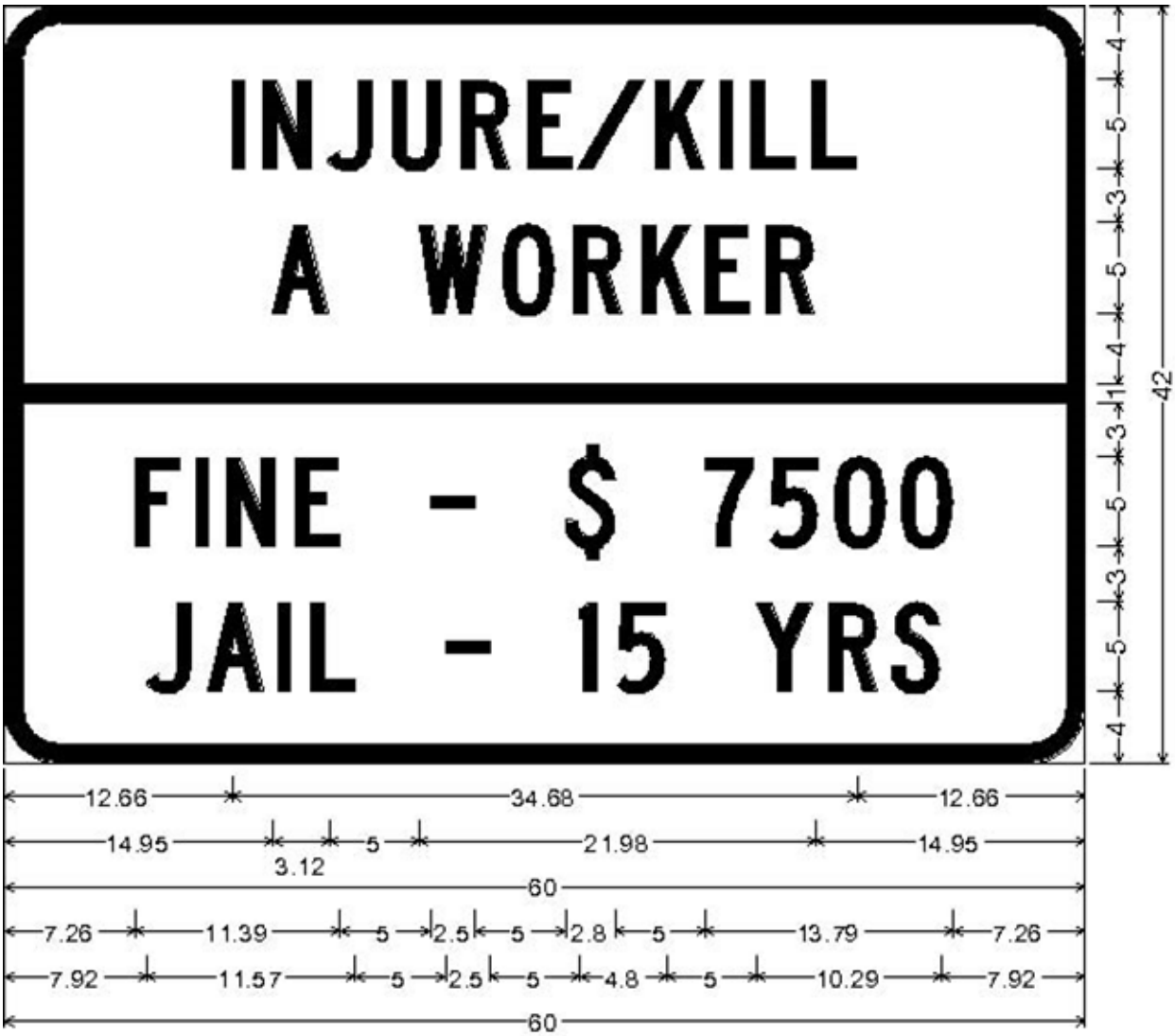
On all other "Typical Temporary Traffic Control..." Maintaining Traffic Typicals (M0110 et. al.):

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 Typicals. Place all work zone signing in accordance with the standard specifications.

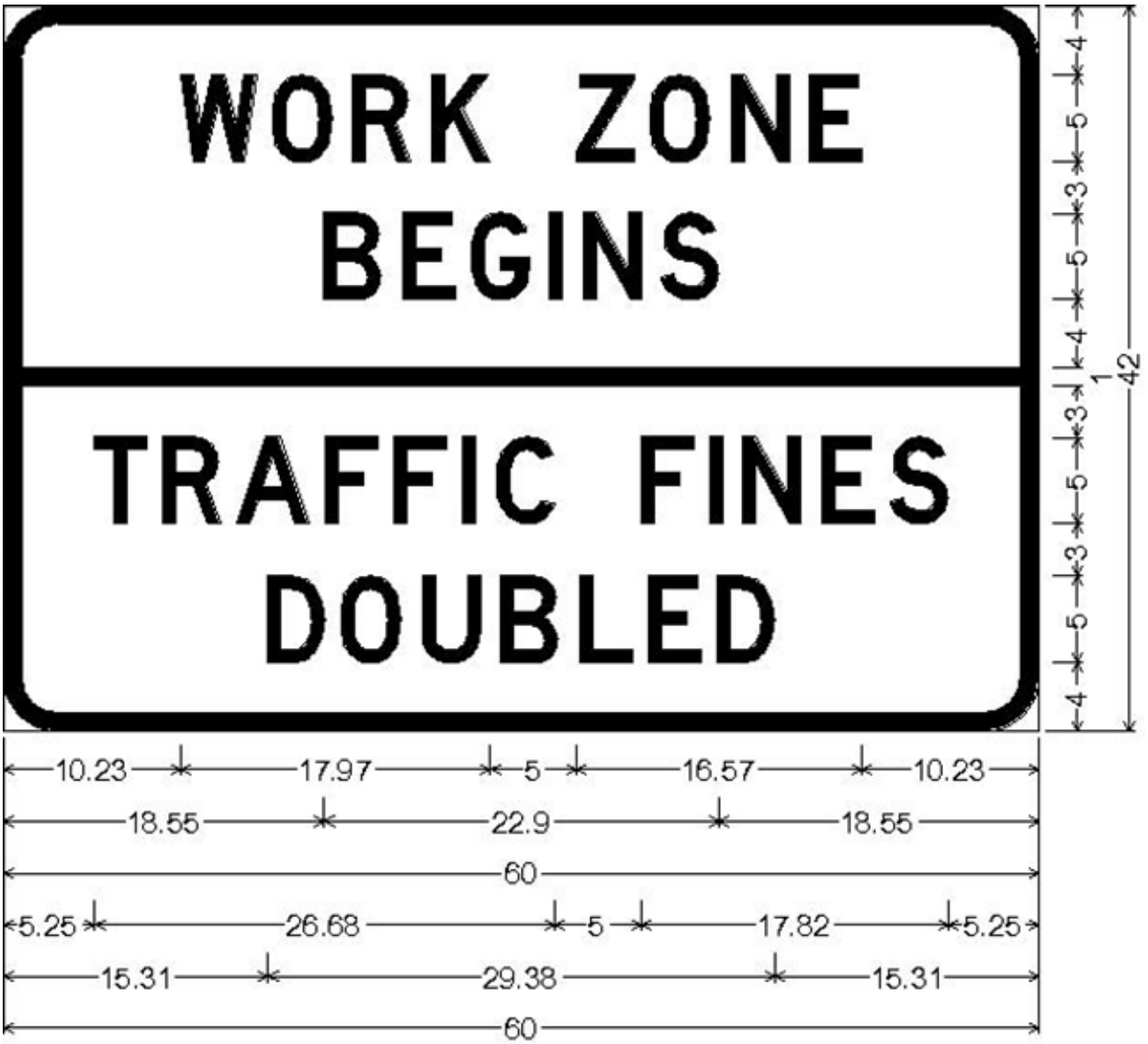
b. Measurement and Payment. Quantities for Local Agency work zone signs will be included in the plan quantities for the pay items **Sign, Type B, Temp, Furn** and **Sign, Type B, Temp, Oper** or **Sign, Type B, Temp, Prismatic, Furn** and **Sign, Type B, Temp, Prismatic, Oper**. Payment for the signs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



3.00" Radius, 1.00" Border, Black on White;
"WORK ZONE" D; "BEGINS" D; "TRAFFIC FINES" D; "DOUBLED" D;

- All dimensions in inches
- Not to scale

R5-18cLA

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TEMPORARY PEDESTRIAN TYPE II BARRICADE

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

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

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

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

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

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

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

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

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

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

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

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

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

Pay Item	**Pay Unit**
Pedestrian Type II Barricade, Temp	Each

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
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
TEMPORARY PAVEMENT MARKING, TYPE R TAPE REVISION

COS:CRB 1 of 1 APPR:LLR:MKB:03-01-22
FHWA:APPR:03-01-22

Delete subsection 922.06.A.1 of the Standard Specifications for Construction, in its entirety and replace with the following:

1. **Pavement Marking, Wet Reflective, Type R.** Provide wet reflective Type R temporary pavement marking as preformed tape. Apply and remove preformed tape in accordance with the manufacturer's instructions. The tape must remain flexible and conform to the texture of the pavement surface during use. Select one of the following materials:

   a. 3M ™ Stamark™ Wet Reflective Removable Tape Series IR710 White manufactured by 3M Traffic Safety & Security Division, 3M Center, 225-4N-14 St. Paul, MN, 55144, (800)-553-1380.

   b. 3M ™ Stamark™ Wet Reflective Removable Tape Series IR711 Yellow manufactured by 3M Traffic Safety & Security Division, 3M Center, 225-4N-14 St. Paul, MN, 55144, (800)-553-1380.

   c. Deltaline Temporary Wet Reflective/TWR-R white manufactured by Brite-line LLC 10660 East 51st Ave. Denver, CO 80239, phone 303-375-1293.

   d. Deltaline Temporary Wet Reflective/TWR-R yellow manufactured by Brite-line LLC 10660 East 51st Ave. Denver, CO 80239, phone 303-375-1293.

   Local Agencies may use a material listed above or select wet reflective Type R markings from the Qualified Products List (922.06A).

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
MULTIPLE DAVIS-BACON WAGE DECISIONS

CSD:LS 1 of 1 APPR:MAS:02-09-21

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 watermain 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 All Agency Memorandums No. 130 and No. 131, 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% or $1,000,000. Sewer and watermain work is considered to fall under the Heavy Construction work classification by the DOL, therefore when that work type is more than 20% of the engineer's estimate or $1,000,000, 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% of the project cost or $1,000,000, 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% of the project cost or $1,000,000. 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 watermain work) if either or both are greater than 20% or $1,000,000.

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 FLINT

SPECIAL PROVISION
FOR
UTILITY COORDINATION

COF:WTI 1 of 3 2-7-2022

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 (MDOT) 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 MDOT 2020 Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 109.05.E of the MDOT 2020 Standard Specifications for Construction.

For protection of underground utilities and in conformance with Public Act 174, 2015, as amended the Contractor shall dial 1.800.482.7171, or 811 a minimum of three (3) full working days, excluding Saturdays, Sundays, and Holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

The following public utilities may have facilities located within the right-of-way:

NAME AND ADDRESS OF OWNER	**KIND OF UTILITY**	**TELEPHONE**
AT&T 54 North Mill Street P.O. Box 32 Pontiac, MI 48342 Contact: Matt Sliwa	Telephone	248.877.0762
Consumers Energy 1801 West Main Street Owosso, Michigan 48867 Contact: Tracy Mahar	Electric	989.729.3250
Consumers Energy 3201 E. Court Street Flint, Michigan 48501 Contact: Tonna Wilcox David Tomczak	Gas Electric	810.760.3486 810.760.3503
Comcast 25626 Telegraph Road Southfield, Michigan 48034 Contact: Craig Pudas	Cable Television	248.809.2715

B&M Ashman c/o Comcast 8455 Rhonda Drive Canton, Michigan 48187 Contact: Brad Tenning	Cable Television	734.777.7910
Fiber Link, Inc. (GISD) 3529 West Genesee Road Lapeer, Michigan 48446 Contact: Tina Snoblen	Fiber Optic	810.667.2891
City of Flint Department of Public Works 1101 South Saginaw Street North Building Flint, Michigan 48502 Contact: John Daly, Director Contact: Mark Adas	Trans. Infrastructure City Engineer	810.766.7165 ext. 2601 810.766.7165 ext. 2603
City of Flint Department of Public Works Water Service Center 3310 East Court Street Flint, Michigan, 48506 Contact: Mike Brown, Director	Public Works	810.766.7202 ext. 3413
City of Flint Department of Public Works Traffic Engineering Division 702 West 12th Street Flint, Michigan 48502 Contact: Sherri Tolbert Contact: Rodney McGaha	Traffic Signals Traffic Control	810.766.7165 ext. 2812 810.691.3106
Flint Community Schools 923 East Kearsley Street Flint, Michigan 48503 Contact: William Chapman	Operations	810.767.6046
Mass Transportation Authority (MTA) 1401 South Dort Highway Flint, MI 48503 Attention: Edgar Benning	Public Transportation	810.767.6950

The owners of existing service facilities that are within grading or structure limits will move them to locations designated by the Engineer or will remove them entirely from the road right-of-way. Owners of public utilities will not be required by the City 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.

The existing utilities shown on the plans represent the best information available as obtained from survey and existing records.

This information does not relieve the Contractor of the responsibility of protecting all existing utilities, in case utilities have been constructed or removed since the survey date, or if utilities are encountered in different locations.

All existing utilities shall be located as to both horizontal and vertical position prior to starting any utility construction or other excavation. Cost shall be included in the new utility or excavation pay items.

The Contractor's attention is directed to the requirements for cooperation with others, as covered in Section 104.08 of the MDOT 2012 Standard Specification for Construction.

a. AT&T. AT&T will be responsible for structure adjustments of all telephone structures. AT&T Contractor shall adjust telephone structures to the proposed grades specified in the project plans. Contractor shall coordinate all work with AT&T Contractor. Contact Jeff Heath, AT&T Engineer, for coordination of work at 313.263.9939.

b. Consumers Energy. Consumers Energy will incorporating the following construction elements into the project.

1. Replace underground electrical infrastructure within each roadway intersection. The Contractor shall coordinate with Consumers Energy on all work activities. The Consumers Energy contact for this portion of work is David Tomczak (810.760.3503).

2. Place new electrical service conduits under reconstructed sidewalks on both sides of the roadway. The Contractor shall coordinate with Consumers Energy on all work activities. The Consumers Energy contact for this portion of work is David Tomczak (810.760.3503).

3. Replace underground gas main infrastructure within the roadway intersections at both Second Street and Kearsley Street. The Contractor shall coordinate with Consumers Energy on all work activities. The Consumers Energy contact for this portion of work is Tonna Wilcox (810.760.3486).

c. Utility Damage. The Contractor shall be responsible for the protection of all existing utilities during construction of this project. Any utilities damaged by the Contractor shall be repaired in accordance with the related utilities specifications at the Contractor's expense.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

Page	Subsection	Errata
1-83	108.05.A.2	In the first paragraph of this subsection change the language "MDOT Form 1130" to read "MDOT Form 1130A".
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: "Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains."
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: "Do not dispose of material, temporarily or permanently, in wetlands or floodplains."
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: "Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites."
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: "Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department."
2-30	205.03.P.4	Delete the first sentence of this subsection and replace with the following: "The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans."
3-31	308.04.D	Change the subsection title from "D. **General**." to read "A. **General**."
4-11	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."
4-52	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."
6-23	602.04.F	Add the following sentence to the end of the first paragraph of this subsection: Temporary concrete pavement, pavement within 4 feet of an obstruction, pavement areas less than 300 square yards, or pavement less than 3 feet wide will not be cored.
6-23	602.04.F	Delete the following language from this subsection on this page: "The Engineer will not core the following: 1. Temporary concrete pavement; 2. Pavement within 4 feet of an obstruction; 3. Pavement areas less than 300 square yards; or 4. Pavement less than 3 feet wide."
6-24	602.04	Rename the following subsections as follows: "1. Initial Core.
6-24	602.04	2. Additional Cores.
6-24	602.04	3. Price Adjustment for Thickness.
6-25	602.04	4. Price Adjustments for Steel Locations within the Pavement.
6-26	602.04	5. Remove and Replace."
7-107	709.04	Change the Pay Unit on the second pay item from the top of the list on this page to read as follows: Thousand Board Foot
8-44	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.
8-57	810.04.I	Delete the first paragraph of this subsection and replace with the following: "The unit price for **Sign, Rem** of the type required includes the cost of removing signs from supports and stacking by shape and size."
8-57	810.04.I	Delete the second paragraph of this subsection and replace with the following:

"The unit prices for **Ground Mtd Sign Supports, Rem**; **Cantilever, Rem** and **Truss, Rem** include the cost of removing ground mounted sign supports, cantilever or truss supports."

8-57	810.04.L	Change this subsection to read: "The unit price for Sign, Erect, Salv of the type required includes erecting the salvaged sign on a new sign support or existing sign support, as shown on the plans, and attaching devices, and hardware, including brackets."
8-110	812.04	Change the fifth and sixth pay item from the top of the list on this page to read as follows: Sign, Type B, Temp, Prismatic, Spec, Furn ..... Square Foot Sign, Type B, Temp, Prismatic, Spec, Oper..... Square Foot
8-141	815.04.C.1.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."
8-170	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.**"
8-185	820.01.B	Add a period to the end of the first sentence of this subsection.
8-199	820.04	Add the pay item to the list on this page: TS, (number) Way (type) Mtd (LED) Optic
8-200	820.04	Change the second pay item from the top of the list on this page to read as follows: TS Head, Temp .....Each
8-200	820.04	Change the eleventh pay item from the top of the list on this page to read as follows: TS, Lens, Pedestrian Sym (LED) .....Each
8-200	820.04	Delete the following pay items from the list: Strain Pole, Steel, 6 bolt, __ foot.....Each Mast Arm Pole, Cat__.....Each Mast Arm, __Foot, Cat.....Each

8-200	820.04	Change the eleventh pay item from the bottom of the list on this page to read as follows: Mast Arm, Rem.....Each
8-204	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.
9-16	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).
9-21	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.
9-119	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.
9-170	920.02.C	Change the reference to Table 920-2 to read Table 920-3 in two locations.
6A	Pay Item Index	Change the following pay item to read: Culv End Sect __ inch, Grate 4-11 401
14A	Pay Item Index	Delete the following pay items reading: Mast Arm Pole, Cat__.....8-200 820 Mast Arm, __Foot, Cat.....8-200 820
14A	Pay Item Index	Change the following pay item to read: Mast Arm, Rem.....8-200 820
22A	Pay Item Index	Change the following pay item to read: Sign, Type B, Temp, Prismatic, Spec, Furn .....8-110 812 Sign, Type B, Temp, Prismatic, Spec, Oper.....8-110 812

23A	Pay Item Index	Delete the following pay item reading: Strain Pole, Steel, 6 bolt, __ foot.....8-200	820
26A	Pay Item Index	Change the following pay item to read: TS Head, Temp 8-200	820

SHEET INDEX

GENERAL SHEETS	SHEET NO.
COVER SHEET	1
LEGEND SHEET	2
ALIGNMENT AND CONTROL SHEET	3
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PEDESTRIAN DETOUR PLAN	5
MAINTENANCE OF TRAFFIC DETAILS AND NOTES	6
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UTILITIES & MUNICIPALITIES

CITY OF FLINT DEPARTMENT OF PUBLIC WORKS 1101 S. SAGINAW STREET, NORTH BUILDING FLINT, MICHIGAN 48502 CONTACT: JOHN DALY, DIRECTOR TRANSPORTATION INFRASTRUCTURE PHONE: 810.766.7165, EXT. 2601	CITY OF FLINT DEPARTMENT OF PUBLIC WORKS 1101 S. SAGINAW STREET, NORTH BUILDING FLINT, MICHIGAN 48502 CONTACT: MARK ADAS, CITY ENGINEER PHONE: 810.766.7165, EXT. 2601
CITY OF FLINT DEPARTMENT OF PUBLIC WORKS 3310 E. COURT STREET FLINT, MICHIGAN 48506 CONTACT: MIKE BROWN, DIRECTOR DEPARTMENT OF PUBLIC WORKS DIRECTOR PHONE: 810.766.7202, EXT. 3413	CITY OF FLINT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION 702 WEST 12TH STREET FLINT, MICHIGAN 48502 RODNEY McGAHA, TRAFFIC CONTROL PHONE: 810.691.3106
CITY OF FLINT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION 702 WEST 12TH STREET FLINT, MICHIGAN 48502 SHERRI TOLBERT, TRAFFIC SIGNALS PHONE: 810.766.7165 EXT. 2812	BUS ROUTES MASS TRANSPORTATION AUTHORITY 1401 SOUTH DORT HIGHWAY FLINT, MI 48503 CONTACT: EDGAR BENNING PHONE: 810.767.6950
TELEPHONE AT&T 54 NORTH MILL STREETP.O. BOX 32 PONTIAC, MICHIGAN 48342 CONTACT: MATT SLIWA PHONE: 248.877.0762	BUS ROUTES FLINT COMMUNITY SCHOOLS 923 EAST KEARSLEY STREET FLINT, MI 48503 CONTACT: WILLIAM CHAPMAN, OPERATIONS PHONE: 810.767.6046
ELECTRIC CONSUMERS ENERGY – ELECTRIC 1801 WEST MAIN STREET OWOSSO, MICHIGAN 48867 CONTACT: TRACY MAHAR PHONE: 989.729.3250	GAS CONSUMERS ENERGY 3201 EAST COURT STREET FLINT, MICHIGAN 48501 CONTACT: DAVID TOMCZAK PHONE: 810.760.3503
GAS CONSUMERS ENERGY 3201 EAST COURT STREET FLINT, MICHIGAN 48501 CONTACT: TONNA WILCOX PHONE: 810.760.3486	CABLE TV B&M ASHMAN C/O COMCAST 8455 RHONDA DRIVE CANTON, MICHIGAN 48187 CONTACT: BRAD TENNING PHONE: 734.777.7910
CABLE TV COMCAST 25626 TELEGRAPH ROAD SOUTHFIELD, MICHIGAN 48034 CONTACT: CRAIG PUDAS PHONE: 248.809.2715	FIBER OPTIC FIBER LINK, INC. (GISD) 3529 WEST GENESEE STREET LAPEER, MICHIGAN 48446 CONTACT: TINA SNOBLEN PHONE: 810.667.2891

THE CITY OF FLINT

IN COOPERATION WITH THE

MICHIGAN DEPARTMENT OF TRANSPORTATION AND FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

SAGINAW STREET REHABILITATION PROJECT

COURT STREET TO THE FLINT RIVER

CITY OF FLINT, GENESEE COUNTY, MICHIGAN

PROJECT LENGTH = 0.46 MILES (2,472 FEET)

CONTROL SECTION 25000 MDOT PROJECT NUMBER JN130632

KEY MAP

NOT TO SCALE

TRAFFIC DATA

POSTED SPEED	35 MPH
DESIGN SPEED	35 MPH
AVERAGE DAILY TRAFFIC (2022)	9,141
% COMMERCIAL VEHICLES (2022)	8%
GROWTH FACTOR	0%
AVERAGE DAILY TRAFFIC (2042)	9,141
% COMMERCIAL VEHICLES (2042)	8%

THE DESIGN OF THIS ROAD IS BASED ON SECTION C 4R OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAM GUIDELINES FOR GEOMETRICS, 2017 EDITION. THE CONSTRUCTION OF THIS ROAD SHALL BE PER THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, AS AMENDED AND ANY SUPPLEMENTAL SPECIFICATIONS ISSUED IN THE PROJECT PROPOSAL. THE PLACEMENT OF PAVEMENT MARKINGS AND SIGNS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION, AS AMENDED AND THE AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012 EDITION.

MDOT ROAD & BRIDGE STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR IN THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARDS GIVEN BELOW, OPPOSITE EACH ITEM, UNLESS OTHERWISE INDICATED.

R-1-G	DRAINAGE STRUCTURES
R-7-F	COVER B
* R-15-G	COVER K
* R-28-J	CURB RAMP AND DETECTABLE WARNING DETAILS
R-29-I	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS
R-30-G	CONCRETE CURB AND CONCRETE CURB & GUTTER
* R-43-J	LOCATION OF TRANSVERSE JOINTS IN PLAN CONCRETE PAVEMENT
R-83-C	UTILITY TRENCHES
R-96-E	SOIL EROSION & SEDIMENTATION CONTROL MEASURES

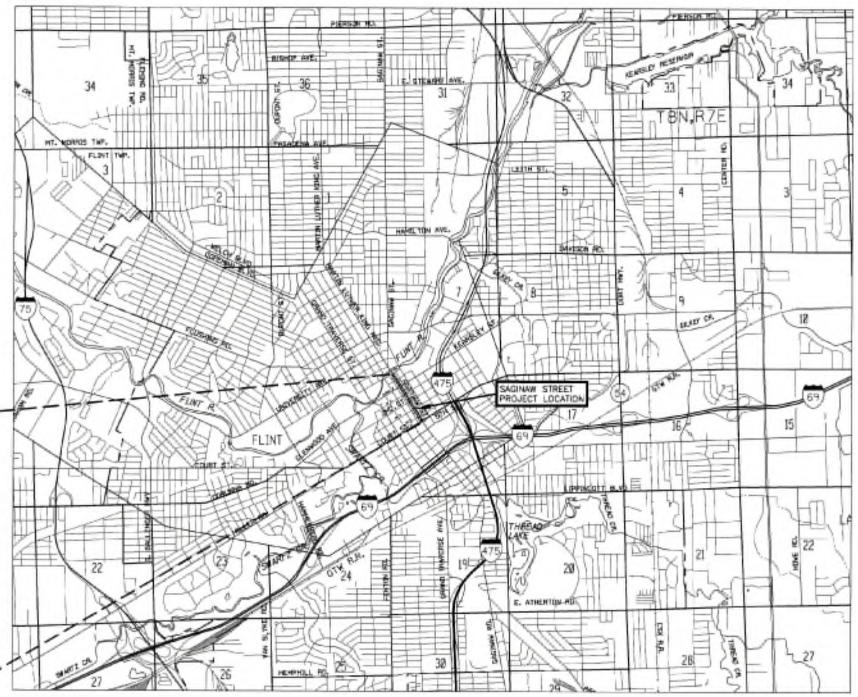
* MDOT SPECIAL DETAILS – LOCATED IN SUBMITTAL

MDOT TRAFFIC AND SAFETY STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR IN THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARDS GIVEN BELOW, OPPOSITE EACH ITEM, UNLESS OTHERWISE INDICATED.

PAVE-900-G	PAVEMENT ARROW & MESSAGE DETAILS
* PAVE-904-A	TEMPORARY LONGITUDINAL LINE TYPES AND PLACEMENT
PAVE-905-E	LONGITUDINAL LINE TYPES & PLACEMENT
PAVE-945-D	INTERSECTION, STOP BAR, AND CROSSWALK MARKINGS
* WZD-100-A	GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
* WZD-125-E	TEMPORARY TRAFFIC CONTROL DEVICES

* MDOT SPECIAL DETAILS – LOCATED IN SUBMITTAL



LOCATION MAP

NOT TO SCALE

SAGINAW STREET – SOUTH

NOT TO SCALE

PROTECTION OF UNDERGROUND UTILITES

THE CONTRACTOR SHALL CONTACT "MISS DIG" AT 800.482.7171, 811, OR VISIT WWW.MISSDIG.ORG, A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO EXCAVATING IN THE VICINITY OF UNDERGROUND UTILITIES TO VERIFY THEIR LOCATION. ADDITIONALLY, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING UTILITY OWNERS WHO ARE NOT PART OF THE "MISS DIG" ALERT SYSTEM.

811 Know what's below. Call before you dig.

PROJECT DESCRIPTION: 0.46 MILES OF BRICK PAVEMENT ROAD RESTORATION AND RECONSTRUCTION WITH IMPROVEMENTS TO DRAINAGE, TRAFFIC FLOW, PARKING, AND NON-MOTORIZED TRANSPORTATION.

FINAL PLANS, 2-11-22

JOB NO. COF1069.01F SHEET 1

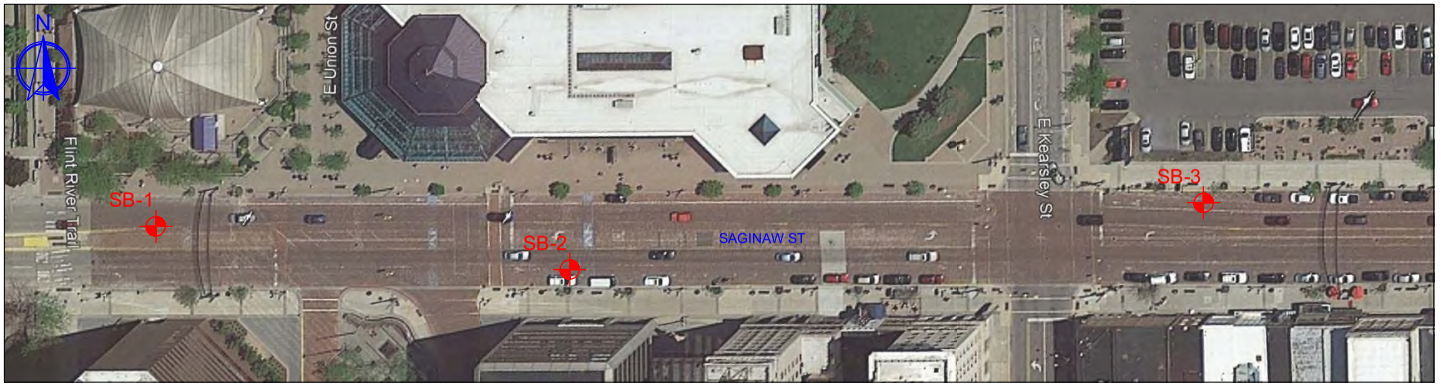
WADE TRIM

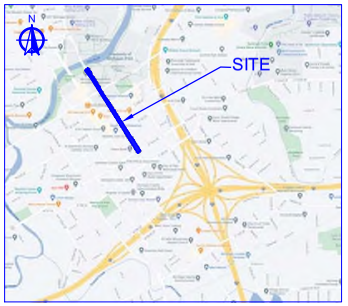
PREPARED UNDER THE SUPERVISION OF:

STATE OF MICHIGAN KEVIN E. COOK ENGINEER 43274 LICENSED PROFESSIONAL

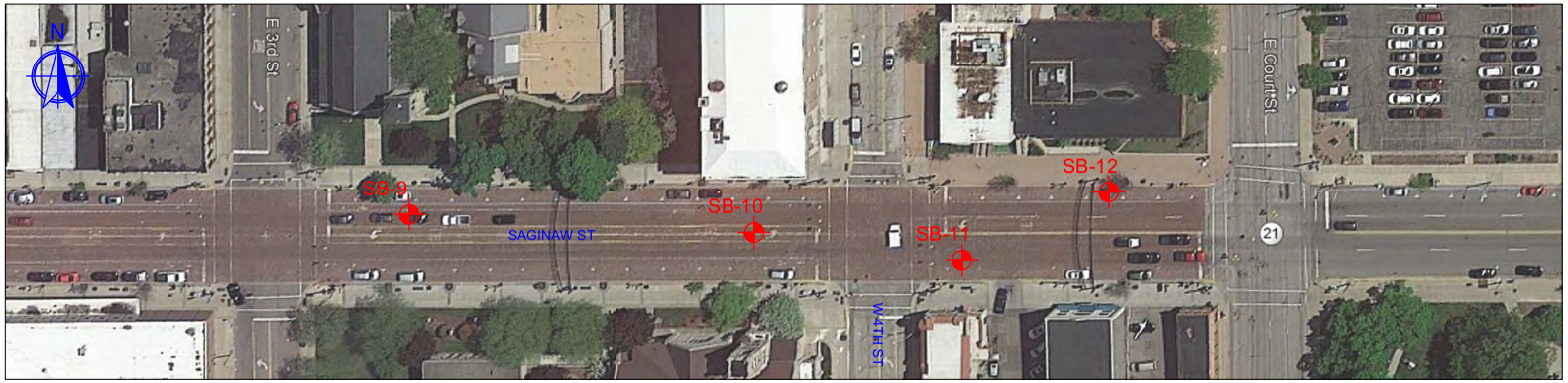
WADE TRIM, INC – KEVIN E. COOK, P.E. REGISTRATION NO. 43274

SAGINAW STREET RECONSTRUCTION – CITY OF FLINT LAP





SITE LOCATION MAP
N.T.S.



GeoTran Consultants, LLC

GEOTECHNICAL ENGINEERING AND CONSULTING SERVICES

10315 E. GRAND RIVER, SUITE 201
BRIGHTON, MICHIGAN 48116

PHONE: (810)-229-6805
FAX: (810)-229-6561

WWW.GEOTRANCONSULTANTS.COM

PAVEMENT CORE/SOIL BORING LOCATION PLAN
SAGINAW STREET RECONSTRUCTION
FROM COURT STREET TO FLINT RIVER
FLINT, MICHIGAN

LEGEND:

SB-1 — AS-DRILLED PAVEMENT CORE/ SOIL BORING LOCATION

PAVEMENT CORE/SOIL BORINGS WERE PERFORMED BY TRIPLE R DRILLING BETWEEN APRIL 29 AND 30, 2021 UNDER THE OBSERVATION OF GEOTRAN CONSULTANTS, LLC.

DRAWING REFERENCE:
BASE PLAN PROVIDED BY GOOGLE EARTH.

PROJECT NO.:	19-10009G-10
DRAWN BY:	M. LUCKHAM
DATE:	6-16-2021
REVIEWED BY:	D. YIP
DATE:	6-17-2021
FILE:	19-10009G-10-001
SCALE:	1 IN = 80 FT
FIGURE NO.:	1

SHEET 1 OF 1

LOG OF SOIL BORING NO.: SB-1

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 710.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
710.0							710.3 PAVEMENT: RED BRICK (3")	0.0						
							710.1 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (7")	0.4						
							709.5	1.0						
	SS-1	16	4 8 7	15				2.5						
707.5														
	SS-2	18	6 9 9	18				5.0						
705.0							FILL: Brown to Dark Brown SAND with Trace of Silt and Gravel							
	SS-3	18	3 3 5	8				7.5						
702.5														
	SS-4	18	3 4 5	9			700.5	10.0						
							End of Boring at 10.0 ft.	10.0						
700.0														

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 3

LOG OF SOIL BORING NO.: SB-2

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 714.0 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							713.8 PAVEMENT: RED BRICK (3")	0.0						
							713.6 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (6")	0.4						
							713.0	1.0						
712.5	SS-1	18	4 4 3	7			FILL: Brown SAND with Trace of Silt and Gravel	2.5						
710.0	SS-2	18	5 4 4	8			709.0	5.0						
							End of Boring at 5.0 ft.	5.0						
707.5														
705.0														
702.5														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 4

LOG OF SOIL BORING NO.: SB-3

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 721.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							721.3 PAVEMENT: RED BRICK (3")	0.0						
							721.1 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (7")	0.4						
720.0							720.5	1.0						
	SS-1	18	3 5 7	12				2.5						
							FILL: Brown SAND with Trace of Silt and Gravel							
717.5														
	SS-2	18	4 6 5	11				5.0						
							715.5	6.0						
715.0														
	SS-3	18	3 1 2	3	3000			7.5						
							Stiff Gray SILTY CLAY with Trace of Sand and Gravel							
712.5														
	SS-4	18	4 2 3	5	3000		711.5	10.0						
							End of Boring at 10.0 ft.	10.0						
710.0														

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 5

LOG OF SOIL BORING NO.: SB-4

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 724.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							724.3 PAVEMENT: RED BRICK (3")	0.0						
							724.2 BEDDING: Brown SAND with Some Gravel	0.3						
							723.7 BASE: CONCRETE (4")	0.3						
722.5	SS-1	12	5 6 6	12			FILL: Brown SAND with Trace of Silt and Gravel	0.8 2.5						
720.0	SS-2	18	2 2 4	6			719.5	5.0						
717.5							End of Boring at 5.0 ft.	5.0						
715.0														
712.5														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 6

LOG OF SOIL BORING NO.: SB-5

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 727.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
727.5								0.0						
							727.3 PAVEMENT: RED BRICK (3")							
							727.2 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (7")	0.3						
							726.6	0.9						
725.0	SS-1	18	7 8 8	16			FILL: Brown SAND with Trace of Silt and Gravel	2.5						
722.5	SS-2	18	7 9 9	18				5.0						
720.0	SS-3	18	6 9 11	20				7.5						
							719.5	8.0						
717.5	SS-4	18	7 8 11	19			Medium Dense Brown SAND with Trace of Silt and Gravel	10.0						
							717.5							
							End of Boring at 10.0 ft.	10.0						

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 7

LOG OF SOIL BORING NO.: SB-6

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 733.0 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							732.8 PAVEMENT: RED BRICK (3")	0.0						
732.5							732.5 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (6")	0.5						
							732.0	1.0						
	SS-1	18	6 6 6	12			FILL: Brown SAND with Trace of Clay, Silt and Gravel	2.5						
730.0							730.0	3.0						
	SS-2	18	5 8 11	19			FILL: Brown SANDY CLAY with Trace of Silt and Gravel	5.0						
727.5							728.0 End of Boring at 5.0 ft.	5.0						
725.0														
722.5														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 8

LOG OF SOIL BORING NO.: SB-7

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 736.0 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							735.8 PAVEMENT: RED BRICK (3")	0.0						
							735.6 BEDDING: Brown SAND with Some Gravel	0.3						
735.0							BASE: CONCRETE (6.5")	0.4						
							735.0	1.0						
	SS-1	6	2 4 7	11			FILL: Brown SILTY SAND with Trace of Gravel	2.5						
							733.0	3.0						
732.5														
	SS-2	18	11 17 21	38			FILL: Brown SANDY CLAY with Trace to Little Silt and Trace of Gravel	5.0						
730.0							730.0	6.0						
	SS-3	18	10 17 22	39	>9000			7.5						
727.5							Hard Brown SILTY CLAY with Trace to Little Sand and Trace of Gravel							
	SS-4	18	17 23 50	73	>9000		726.0	10.0						
							End of Boring at 10.0 ft.	10.0						
725.0														

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 9

LOG OF SOIL BORING NO.: SB-8

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 738.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
							738.3 PAVEMENT: RED BRICK (3")	0.0						
							738.1 BEDDING: Brown SAND with Some Gravel	0.3						
							737.7 BASE: CONCRETE (5")	0.4						
737.5								0.8						
	SS-1	18	3 1 2	3				2.5						
							FILL: Brown SILTY SAND with Trace of Gravel							
735.0														
	SS-2	18	1 2 2	4			733.5	5.0						
							End of Boring at 5.0 ft.	5.0						
732.5														
730.0														
727.5														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 10

LOG OF SOIL BORING NO.: SB-9

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 742.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
742.5								0.0						
							742.3 PAVEMENT: RED BRICK (3")							
							742.1 BEDDING: Brown SAND with Some Gravel	0.3						
								0.4						
							BASE: CONCRETE (7")							
							741.5							
								1.0						
740.0	SS-1	18	3 6 7	13				2.5						
							FILL: Brown SILTY SAND with Trace of Clay and Gravel							
737.5	SS-2	18	3 5 9	14				5.0						
							736.5							
								6.0						
735.0	SS-3	18	3 5 10	15	9000			7.5						
							Hard Brown SILTY CLAY with Trace to Little Sand and Trace of Gravel							
732.5	SS-4	18	4 5 15	20	9000		732.5	10.0						
							End of Boring at 10.0 ft.	10.0						

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 11

LOG OF SOIL BORING NO.: SB-10

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Left Turn Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 747.7 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
747.5							747.5 PAVEMENT: RED BRICK (3")	0.0						
							747.4 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (10")	0.3						
							746.5	1.2						
	SS-1	12	7 7 7	14				2.5						
745.0							FILL: Brown SAND with Trace of Clay, Silt and Gravel							
	SS-2	16	4 5 3	8			742.7	5.0						
742.5							End of Boring at 5.0 ft.	5.0						
740.0														
737.5														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 12

LOG OF SOIL BORING NO.: SB-11

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: SB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/29/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 750.2 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
750.0							750.0 PAVEMENT: RED BRICK (3")	0.0						
							749.9 BEDDING: Brown SAND with Some Gravel	0.3						
							BASE: CONCRETE (7")	0.3						
							749.3	0.9						
	SS-1	18	5 4 4	8				2.5						
747.5							FILL: Brown SAND with Trace of Clay, Silt and Gravel							
	SS-2	18	1 3 3	6			745.2	5.0						
745.0							End of Boring at 5.0 ft.	5.0						
742.5														
740.0														

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

Total Drilling Depth: 5 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

At Time of Drilling: Dry

End of Drilling: Dry

Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 13

LOG OF SOIL BORING NO.: SB-12

GeoTran Consultants, LLC

Project Name: Saginaw Street Reconstruction

Project Location: NB Lane, Saginaw Street, Flint, Michigan

Project Number: 18-10009G-10

Client: Wade Trim, Inc.

Date: 4/30/2021

SAMPLE DATA						PROFILE DESCRIPTION			LABORATORY DATA					
ELEV. (ft)	SAMPLE TYPE/ NUMBER	REC. (in.)	BLOWS/ 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	GRAPHIC LOG	GROUND SURFACE ELEVATION: 752.5 ft ±	DEPTH (ft)	MOIST. CONT. (%)	DRY DENSITY (pcf)	UNCONF. COMP. ST. (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	Loss on Ignition (%)
752.5								0.0						
							752.3 PAVEMENT: RED BRICK (3")							
							752.1 BEDDING: Brown SAND with Some Gravel	0.3						
								0.4						
							BASE: CONCRETE (6")							
							751.6	0.9						
750.0	SS-1	18	3 4 4	8				2.5						
							FILL: Brown SILTY SAND with Trace of Clay and Gravel							
747.5	SS-2	18	2 2 3	5				5.0						
							746.5	6.0						
745.0	SS-3	18	11 17 25	42	>9000			7.5						
							Hard to Very Hard Brown SILTY CLAY with Trace to Little Sand and Trace of Gravel							
742.5	SS-4	18	11 23 40	63	>9000		742.5	10.0						
							End of Boring at 10.0 ft.	10.0						

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

Total Drilling Depth: 10 ft

Drilling Contractor: Triple R Drilling, LLC

Driller: M. Burgess

Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.

Backfill Procedure:
Borehole backfilled with excavated materials and brick pavement repaired.

Groundwater Levels:

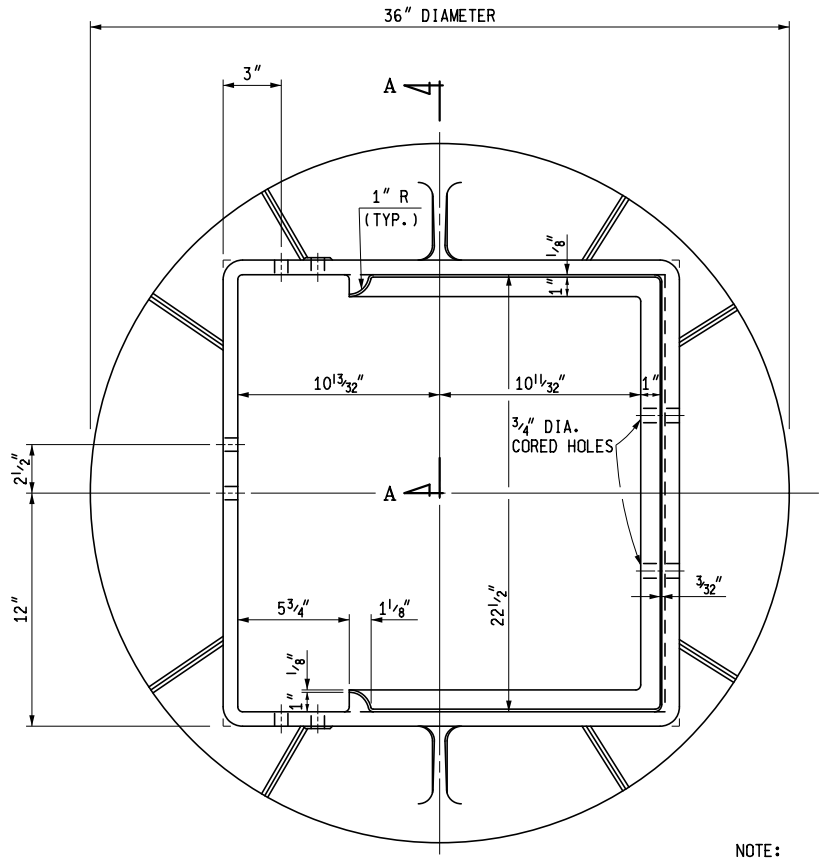
At Time of Drilling: Dry

End of Drilling: Dry

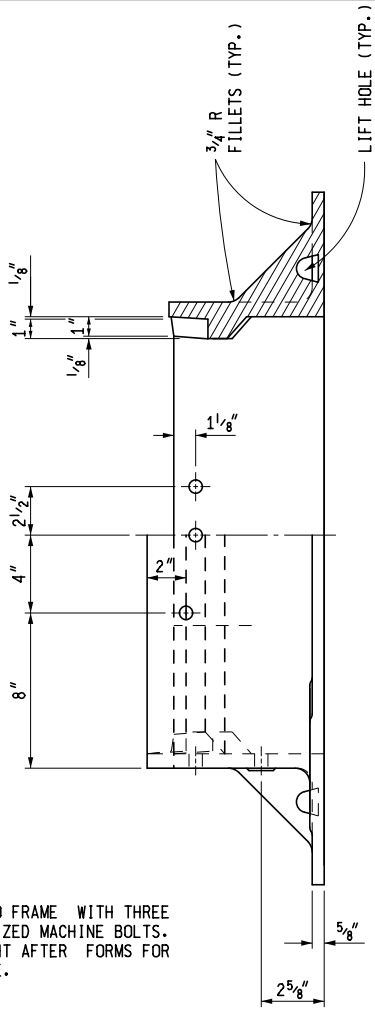
Notes:

Logged By: R. Muthala **Reviewed By:** D. Yip

Figure No.: 14



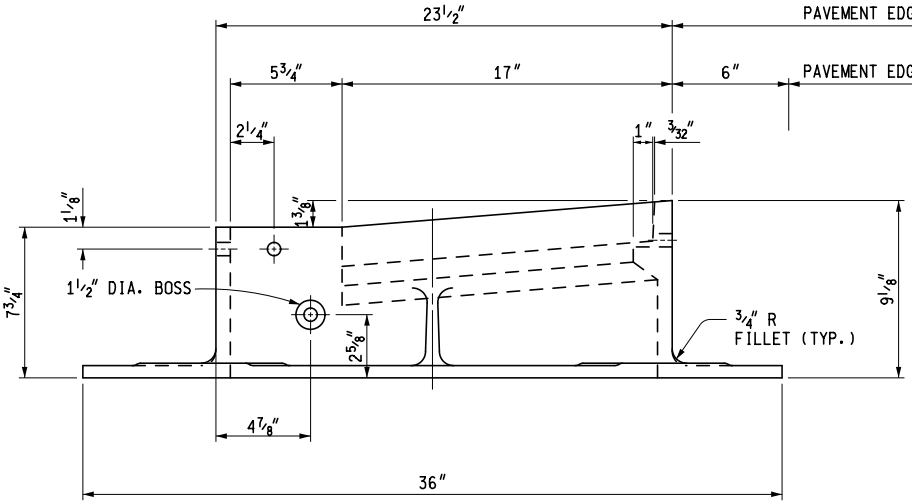
PLAN VIEW OF FRAME



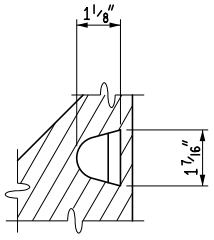
SECTION A - A
OF FRAME

HALF FRONT ELEVATION
OF FRAME

NOTE:
BOLT CURB BOX TO FRAME WITH THREE 5/8" x 2 1/2" GALVANIZED MACHINE BOLTS. ADJUST FOR HEIGHT AFTER FORMS FOR CURB ARE IN PLACE.



SIDE ELEVATION OF FRAME



LIFT HOLE DETAIL

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

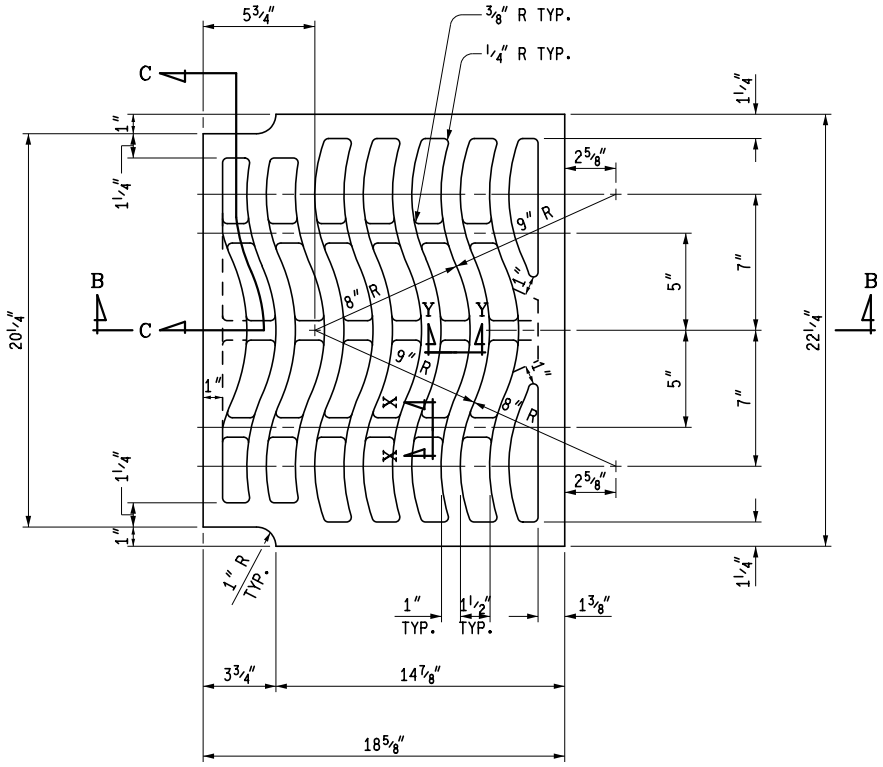
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

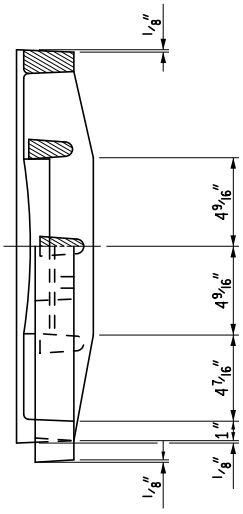
COVER K

FOR USE WITH CONCRETE CURB & GUTTER DETAILS C, E & F

F.H.W.A. APPROVAL	7-26-2019 PLAN DATE	R-15-G	SHEET 1 OF 3

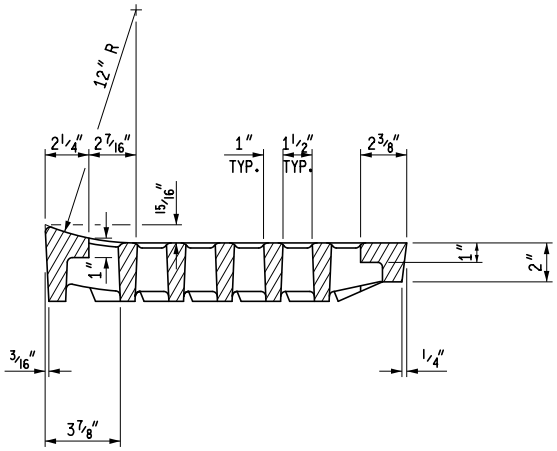


PLAN VIEW OF GRATE

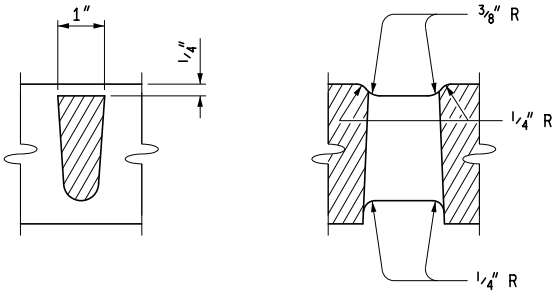


HALF FRONT ELEVATION OF GRATE

SECTION C - C OF GRATE



SECTION B - B



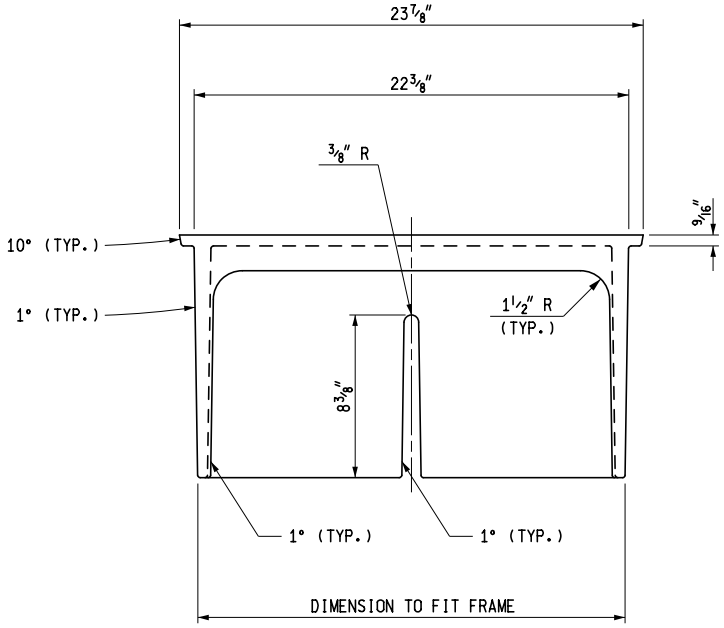
SECTION X - X SECTION Y - Y

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

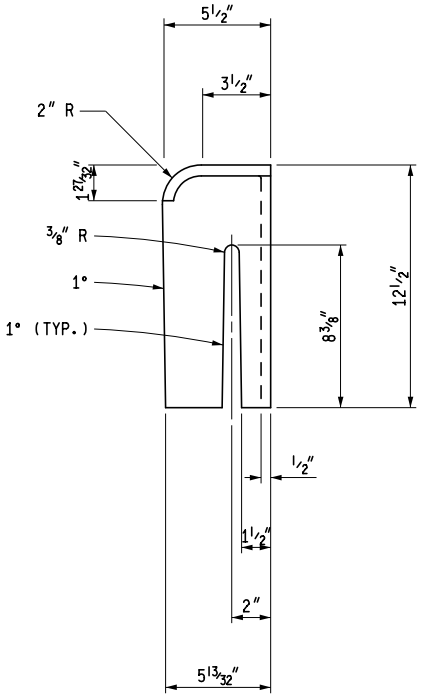
COVER K

FOR USE WITH CONCRETE CURB & GUTTER
DETAILS C, E & F

F.H.W.A. APPROVAL	7-26-2019 PLAN DATE	R-15-G	SHEET 2 OF 3



FRONT VIEW OF CURB BOX



SIDE VIEW

NOTES:

THE CASTINGS SHALL MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATION FOR GRAY IRON OR DUCTILE IRON CASTINGS.

ALL CASTINGS SHALL BE CLEANED BY CURRENT APPROVED BLASTING METHODS.

THE SEATING FACE OF THE GRATE AND THE SEAT FOR THE SAME ON THE FRAME SHALL BE GROUND OR MACHINED SO THAT THE GRATE WILL HAVE AN EVEN BEARING ON ITS SEAT TO PREVENT ROCKING OR TILTING.

THE CASTINGS SHALL BE FREE OF POURING FAULTS, BLOW HOLES, CRACKS AND OTHER IMPERFECTIONS. THEY SHALL BE SOUND, TRUE TO FORM AND THICKNESS, CLEAN AND NEATLY FINISHED, AND SHALL BE COATED WITH COAL TAR PITCH VARNISH.

THE CURB BOX AND FRAME SHALL BE SHIPPED ASSEMBLED.

THIS COVER IS DESIGNED TO FIT ON ANY INLET, CATCH BASIN OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

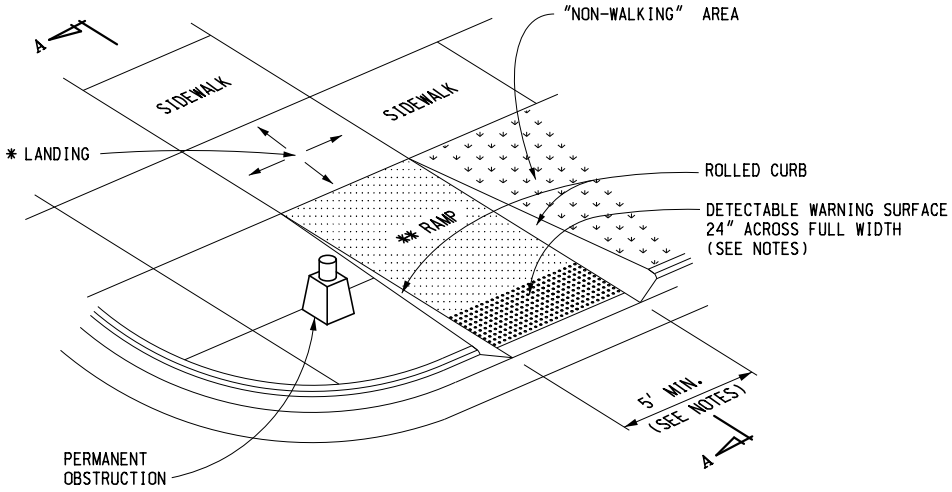
COVER K

FOR USE WITH CONCRETE CURB & GUTTER
DETAILS C, E & F

F.H.W.A. APPROVAL	7-26-2019 PLAN DATE	R-15-G	SHEET 3 OF 3

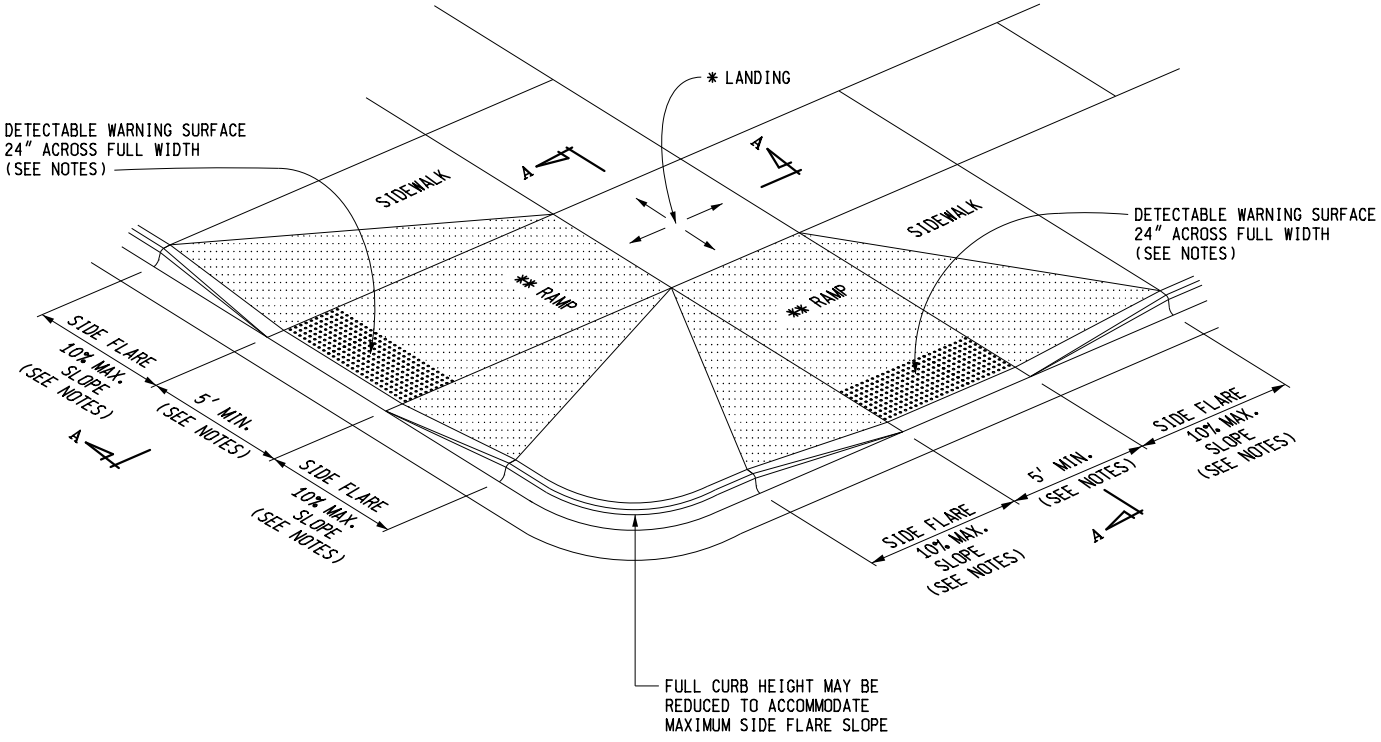
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE R

(ROLLED SIDES)



CURB RAMP TYPE F

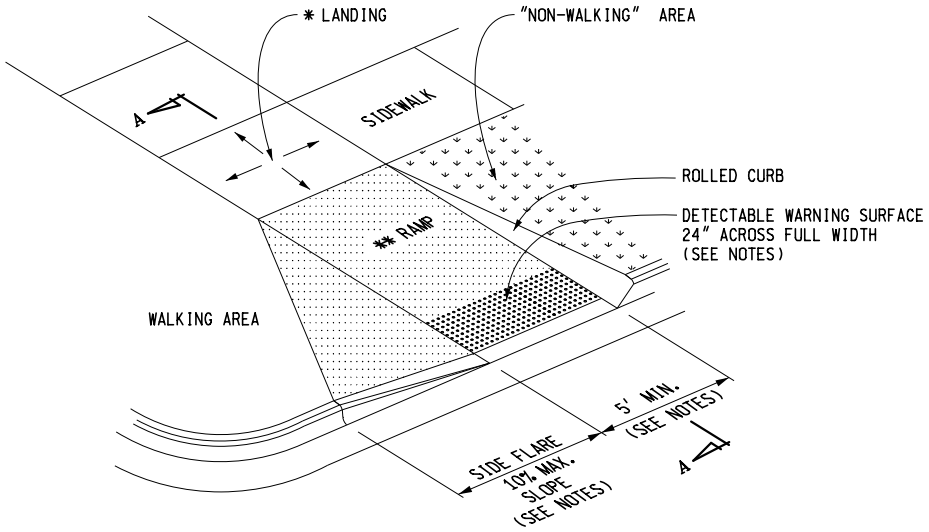
(FLARED SIDES, TWO RAMPS SHOWN)

MDOT Michigan Department of Transportation 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	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	PLAN DATE		SHEET
	5-8-2020	R-28-J	1 OF 7

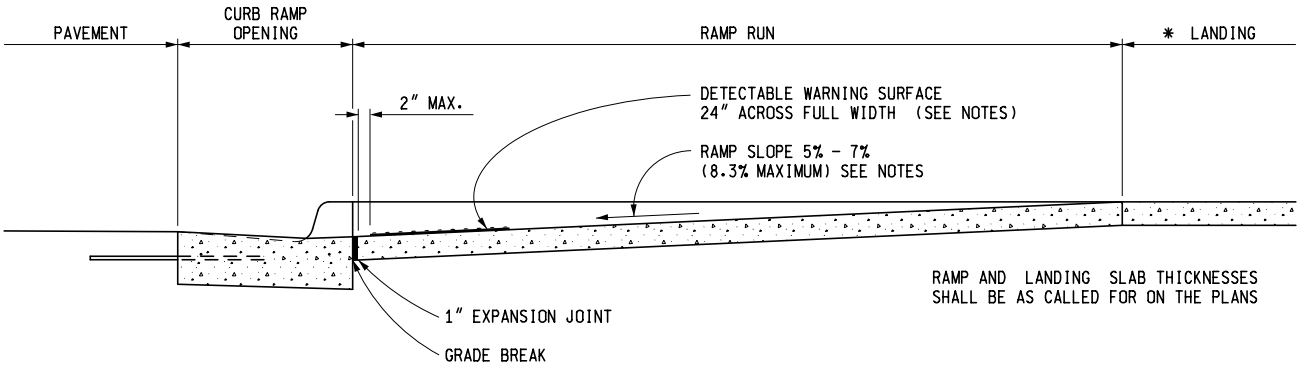
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE RF

(ROLLED / FLARED SIDES)

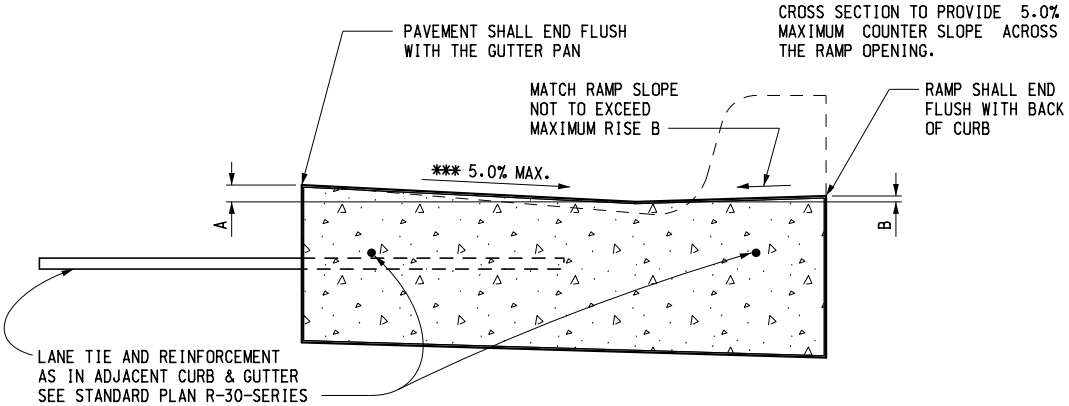


SECTION A-A

CURB TYPE	MAXIMUM RISE (INCHES)	
	A	B
B1	3/4	1
B2	3/4	1
B3	3/4	1
D1	3/4	1
D2	3/4	1
D3	3/4	1
C1	1/2	1/2
C2	1/2	1/2
C3	3/4	1/2
C4	3/4	1/2
C5	1	1/2
C6	1	1/2
F1	1/2	1/2
F2	1/2	1/2
F3	3/4	1/2
F4	3/4	1/2
F5	1	1/2
F6	1	1/2

FOR CURB TYPES SEE STANDARD PLAN R-30-SERIES

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.



SECTION THROUGH CURB RAMP OPENING

(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION

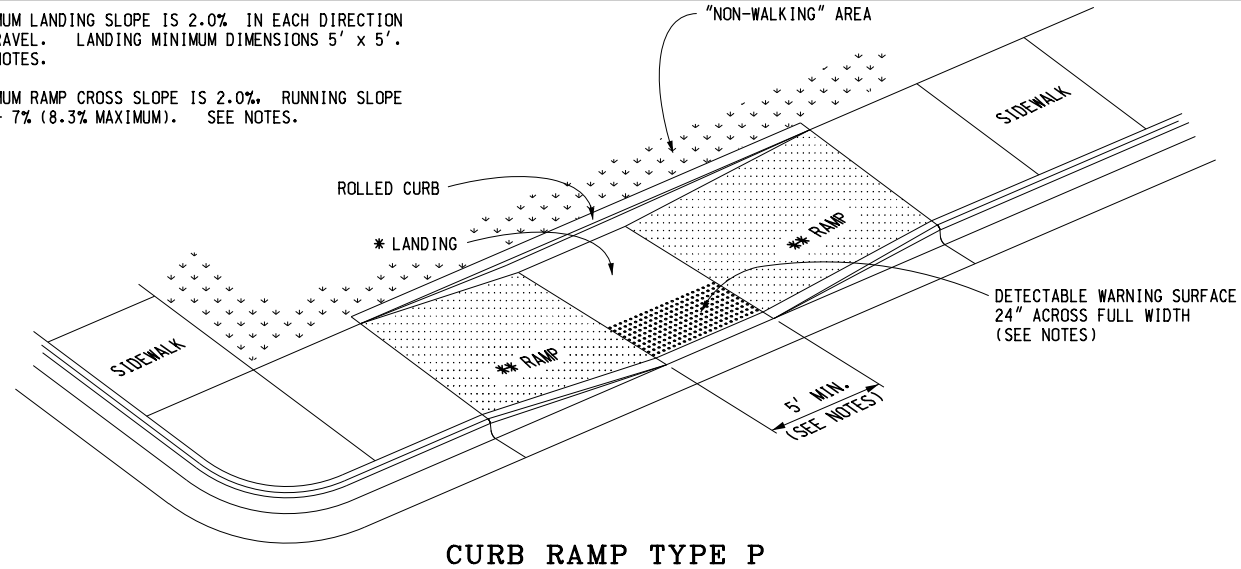
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 2 OF 7

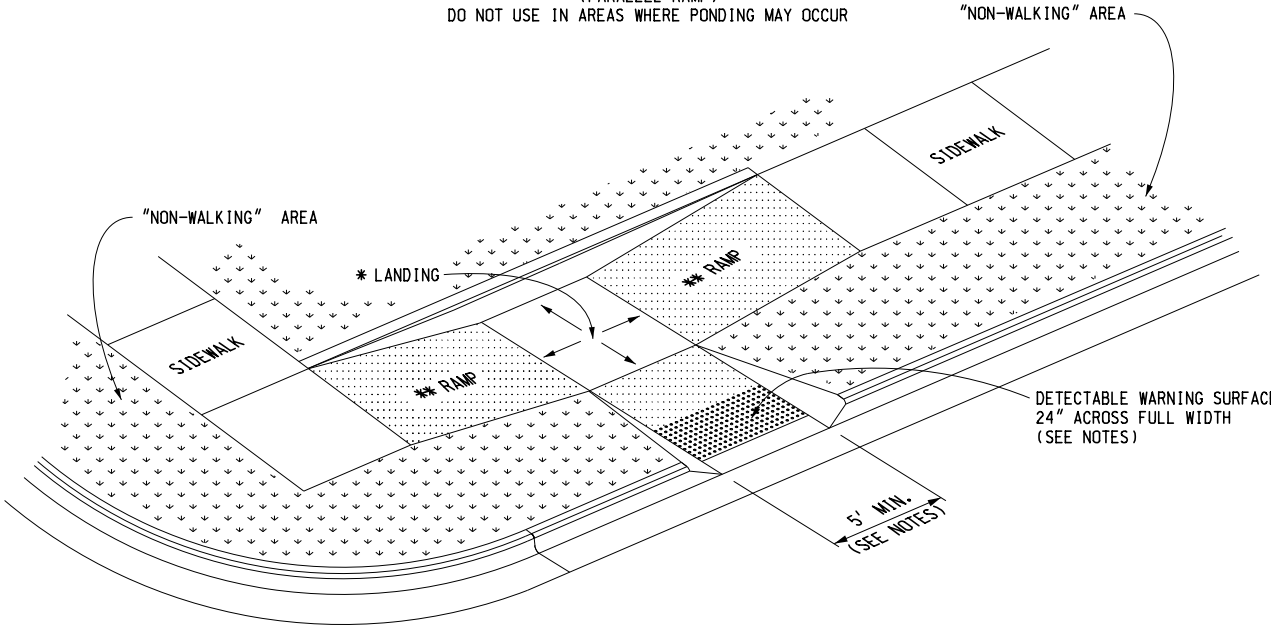
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



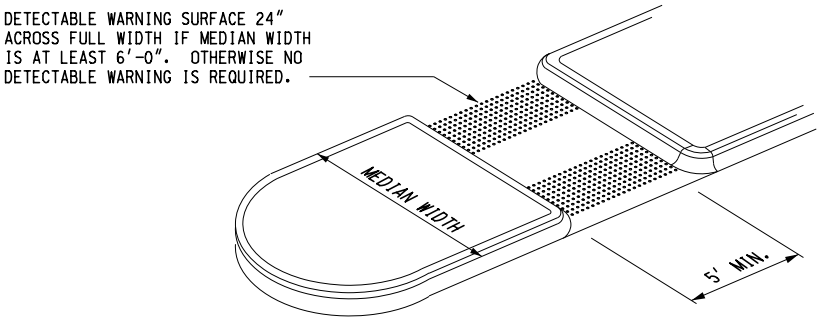
CURB RAMP TYPE P

(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



CURB RAMP TYPE C

(COMBINATION RAMP)



CURB RAMP TYPE M

(MEDIAN ISLAND)

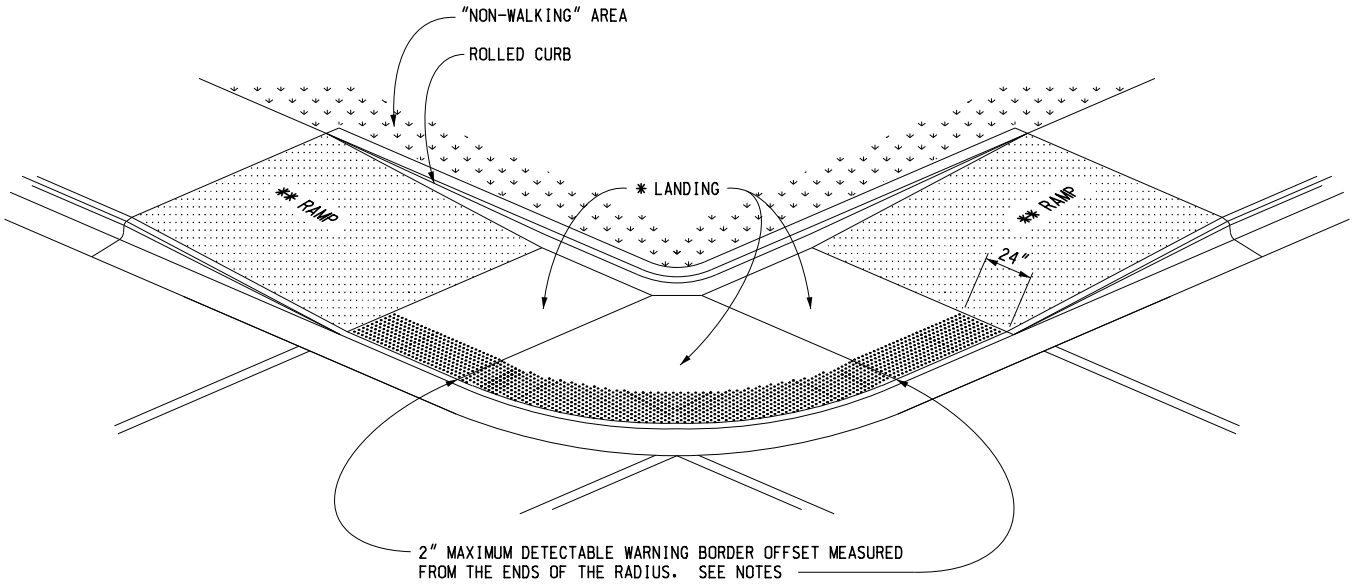
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

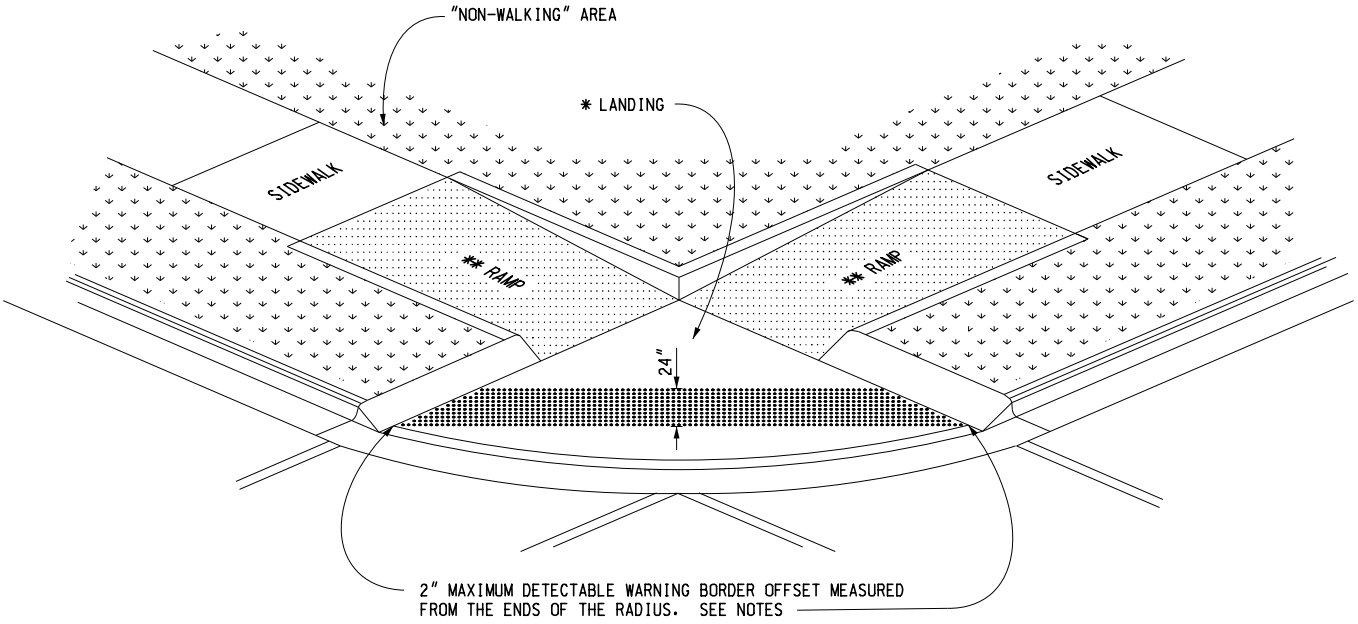
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 3 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



(RADIAL DETECTABLE WARNING SHOWN)



(TANGENT DETECTABLE WARNING SHOWN)

CURB RAMP TYPE D

(DEPRESSED CORNER)

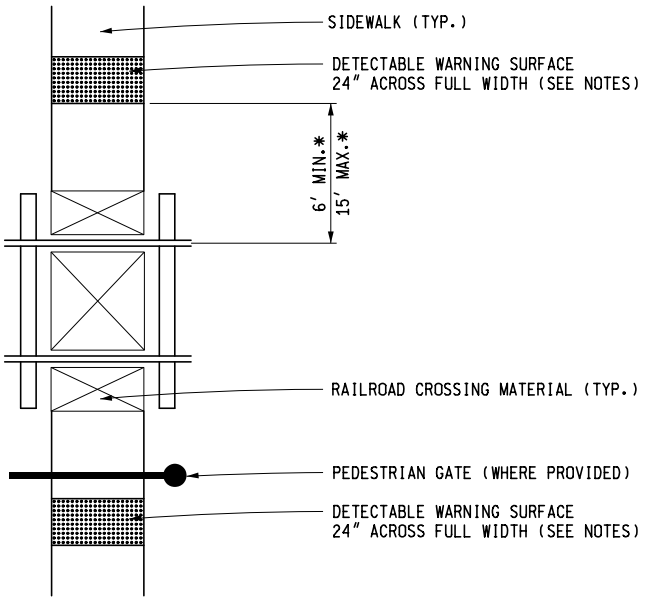
USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

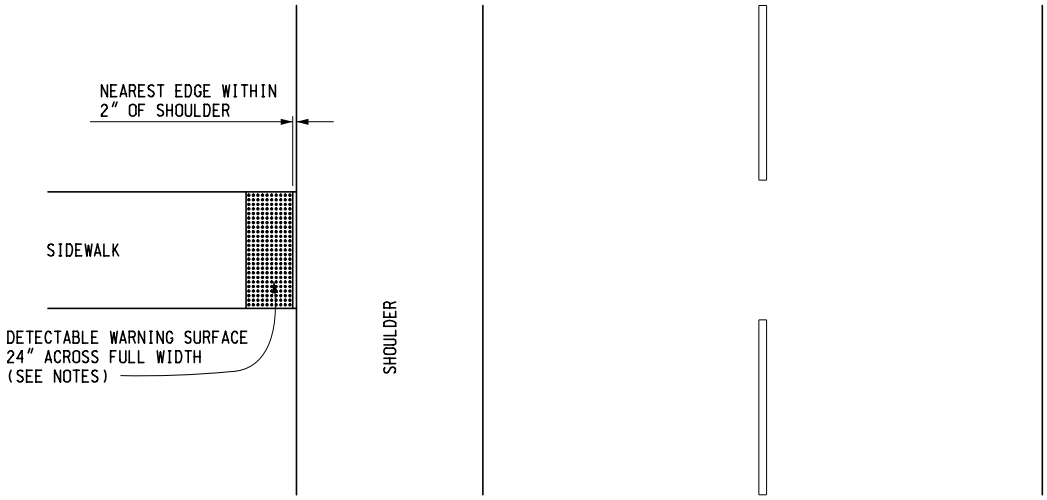
CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 4 OF 7

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6′ MINIMUM AND 15′ MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.



DETECTABLE WARNING AT RAILROAD CROSSING

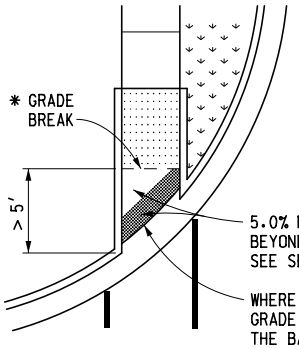


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

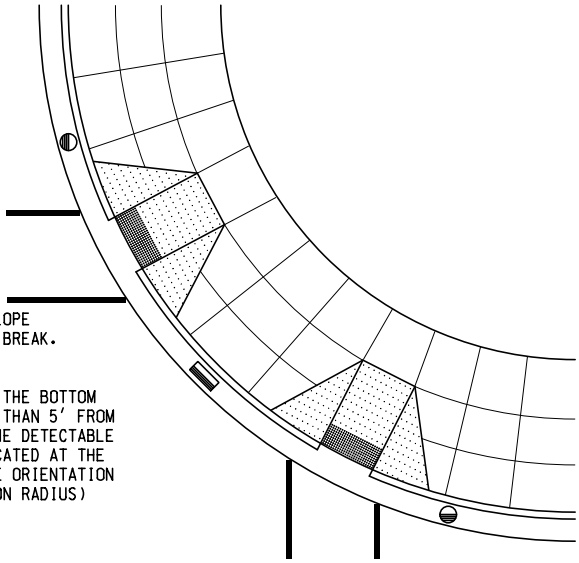
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 5 OF 7



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')

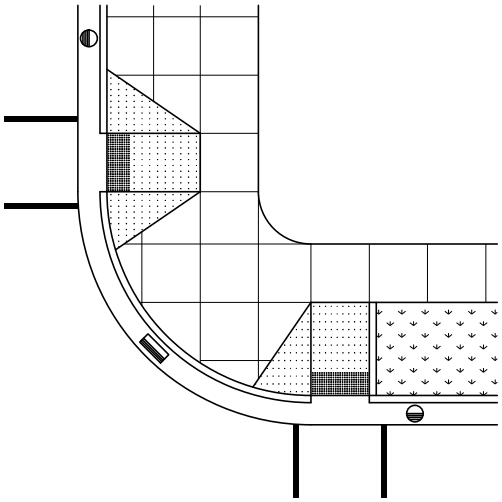


CURB RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)

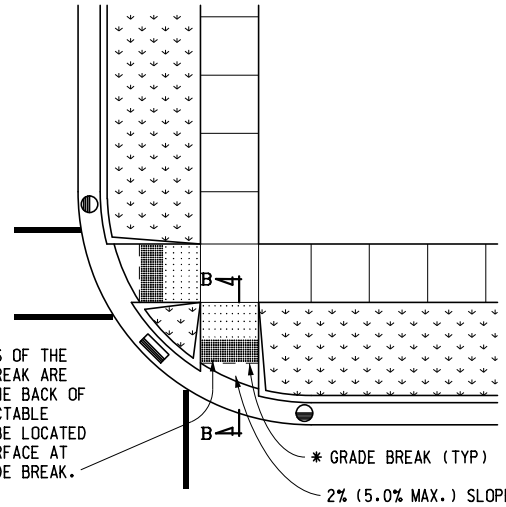
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND CURB RAMP ARE NOT ALIGNED

LEGEND

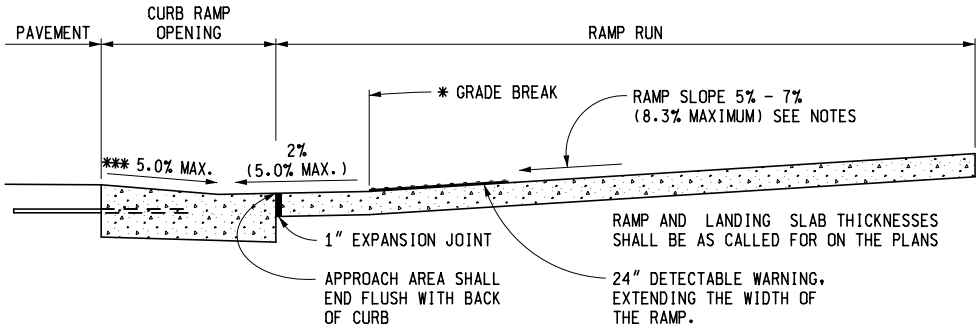
- SLOPED SURFACE
- DETECTABLE WARNING
- "NON-WALKING" AREA
- CROSSWALK MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



CURB RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RF SHOWN)



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')



* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

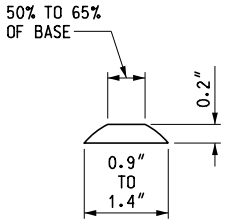
SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.

SECTION B-B
CURB RAMP ORIENTATION

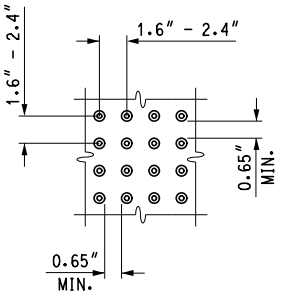
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

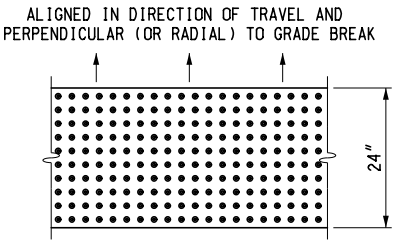
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 6 OF 7



DOME SECTION



DOME SPACING



DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

CURB RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5′ MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4′ AND LANDINGS TO NOT LESS THAN 4′ x 4′.

CURB RAMPS WITH A RUNNING SLOPE ≤5% DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN ½". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

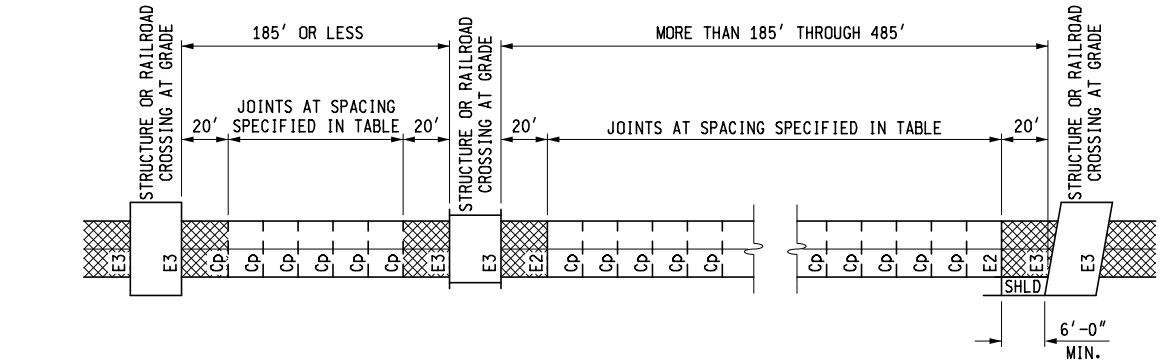
FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE CURB RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

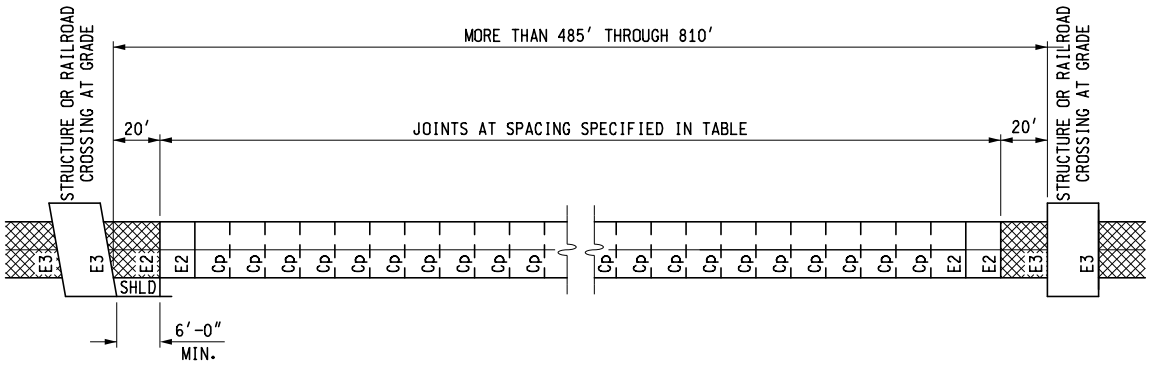
DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

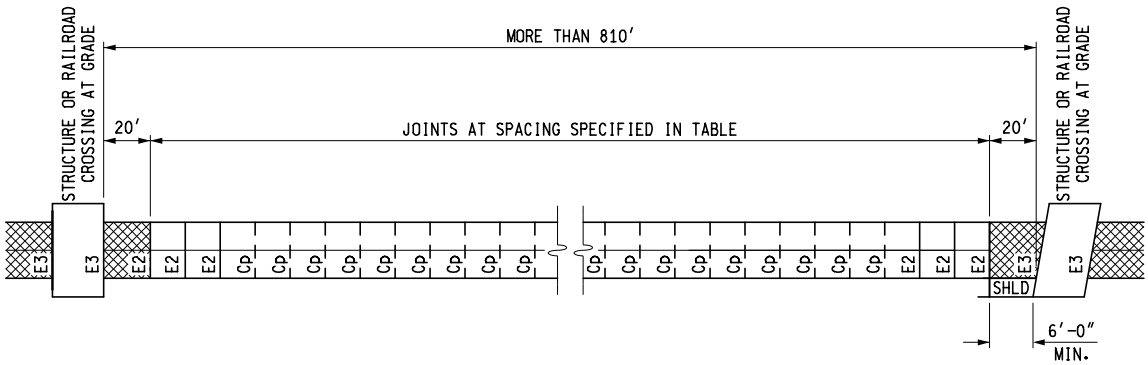
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 7 OF 7







PLAN VIEW SHOWING TRANSVERSE JOINT LOCATIONS

NOTE:
SEE SHEET 2 FOR DETAIL OF JOINT SPACING WITH INTEGRAL / SEMI-INTEGRAL ABUTMENTS AND SLEEPER SLAB.

JOINT LEGEND
ACCORDING TO STANDARD PLAN R-39-SERIES

(E2) 1″ TRANSVERSE EXPANSION JOINT WITH LOAD TRANSFER ASSEMBLY
(E3) 1″ TRANSVERSE EXPANSION JOINT WITHOUT LOAD TRANSFER ASSEMBLY
(Cp) TRANSVERSE CONTRACTION JOINT
REINFORCED CONCRETE PAVEMENT ADJACENT TO BRIDGE REFERENCE LINE OR SLEEPER SLAB

JOINTED PLAIN CONCRETE PAVEMENT	
PAVEMENT THICKNESS	JOINT SPACING
$6\frac{1}{2}$″ TO $8\frac{3}{4}$″	12′
9″ TO $11\frac{3}{4}$″	14′
12″ OR MORE	16′

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

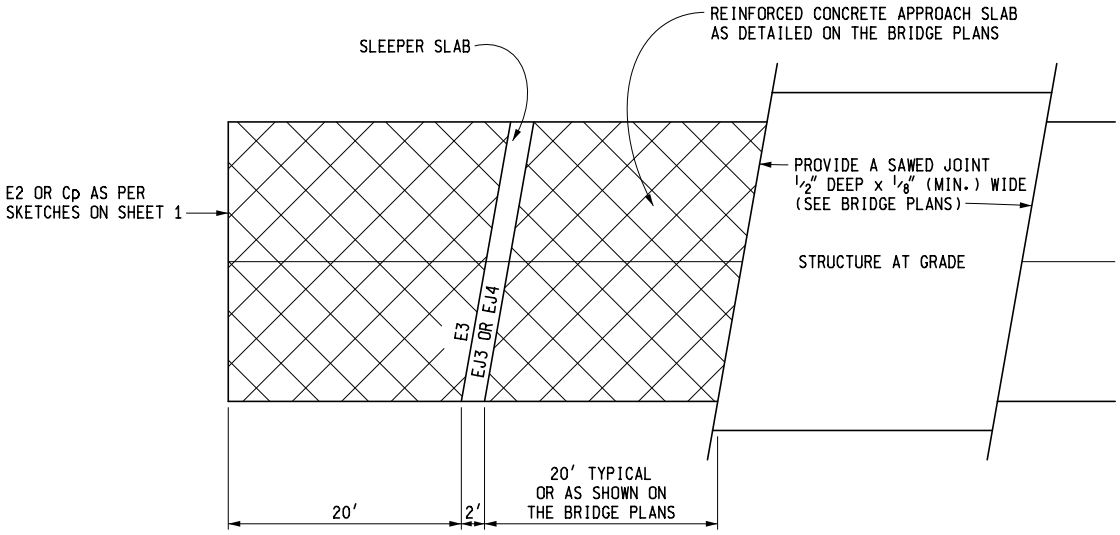
APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT

F.H.W.A. APPROVAL	1-4-2022 PLAN DATE	R-43-J	SHEET 1 OF 2



JOINT SPACING WITH
INTEGRAL / SEMI-INTEGRAL ABUTMENTS AND SLEEPER SLABS

NOTES:

UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER, TRANSVERSE JOINTS SHALL BE PLACED AS SPECIFIED ON THIS STANDARD PLAN AND ON CURRENT STANDARD PLAN R-42-SERIES.

MAXIMUM JOINT SPACING SHALL NOT EXCEED THE DISTANCE SPECIFIED. WHEN A JOINT SPACING ADJUSTMENT IS REQUIRED, IT SHALL BE MADE BETWEEN CONTRACTION JOINTS WITH THE ADJUSTED SPACE BEING NOT LESS THAN 6'-6".

EXPANSION JOINTS SHALL ONLY BE PLACED AT STRUCTURES, INTERSECTIONS AND SPECIFIED LOCATIONS.

JOINTS ABUTTING RAILROAD TRACKS SHALL BE AS SPECIFIED ON CURRENT STANDARD PLAN R-121-SERIES.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

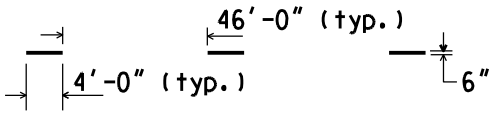
LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT

F.H.W.A. APPROVAL	1-4-2022 PLAN DATE	R-43-J	SHEET 2 OF 2

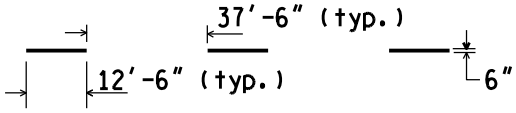
TYPES OF TEMPORARY LONGITUDINAL LINES

FREEWAY APPLICATIONS

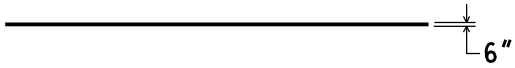
BROKEN WHITE LANE LINE (1)



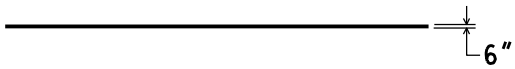
BROKEN WHITE LANE LINE (2)



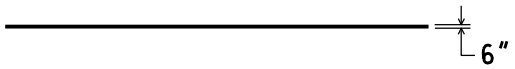
SOLID WHITE LANE LINE OR LANE SHIFT



SOLID WHITE EDGE LINE



SOLID YELLOW EDGE LINE



SOLID WHITE GORE MARKING

Notes:

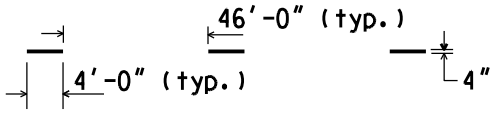
1. See project documents for correct broken line pattern.

MDOT Michigan Department of Transportation PREPARED BY TSMO DIVISION DRAWN BY: MKB CHECKED BY: KMW	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT			
		(SPECIAL DETAIL) F.H.W.A. APPROVAL	(SPECIAL DETAIL) PLAN DATE	PAVE-904-A	SHEET 1 OF 3

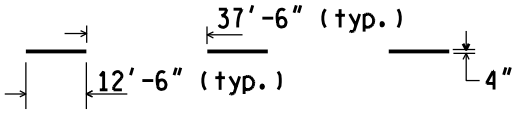
TYPES OF TEMPORARY LONGITUDINAL LINES

NON-FREEWAY APPLICATIONS

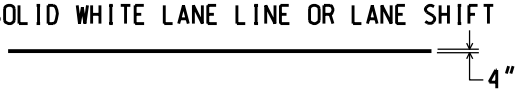
BROKEN WHITE LANE LINE (1)



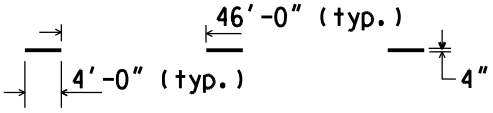
BROKEN WHITE LANE LINE (2)



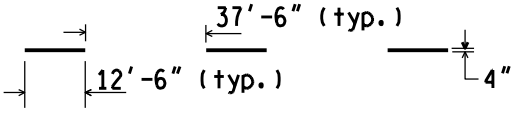
SOLID WHITE LANE LINE OR LANE SHIFT



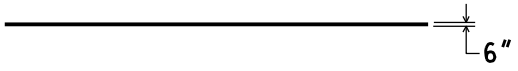
BROKEN YELLOW CENTERLINE (1)



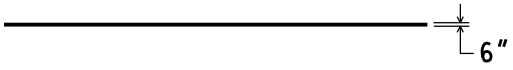
BROKEN YELLOW CENTERLINE (2)



SOLID WHITE EDGE LINE



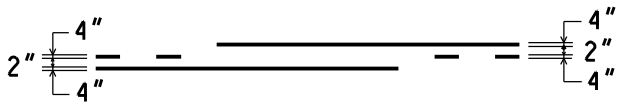
SOLID YELLOW EDGE LINE



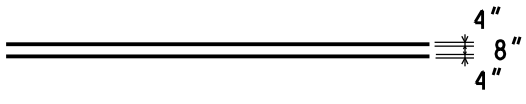
SOLID WHITE GORE MARKING

LINE PATTERNS

TWO - LANE PASSING PROHIBITED (YELLOW)



DOUBLE SOLID YELLOW (OR WHITE)

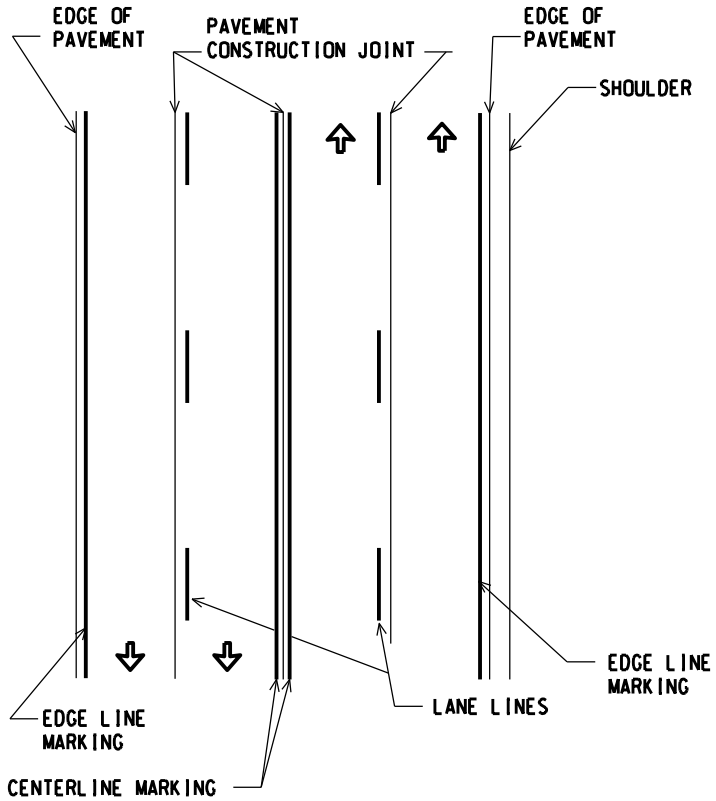


Notes:

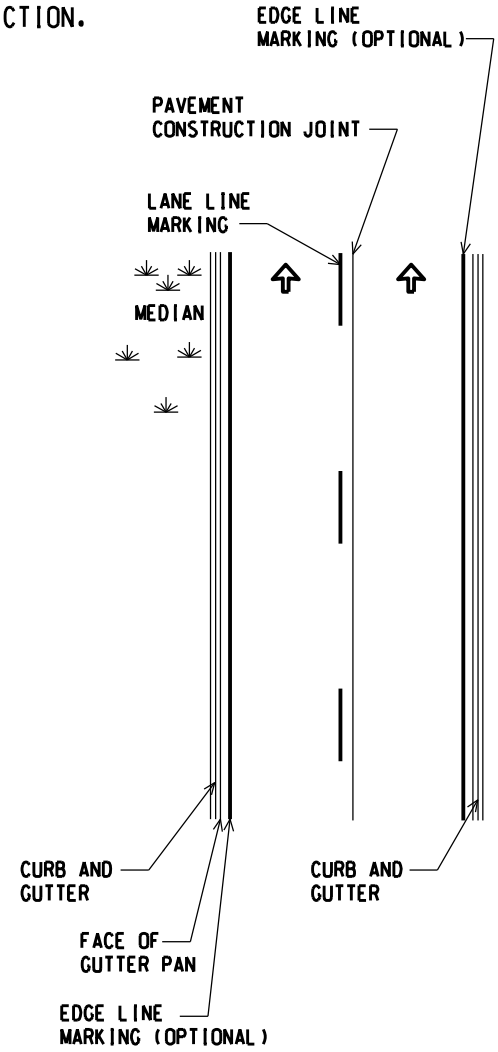
1. See project documents for correct broken line pattern.

NOT TO SCALE

BASIC COLOR RULE: WHITE LINES SEPARATE FLOW OF TRAFFIC IN THE SAME DIRECTION. YELLOW LINES SEPARATE FLOW OF TRAFFIC IN THE OPPOSITE DIRECTION.



FOR UNCURBED ROADWAYS



FOR CURBED ROADWAYS

PLACEMENT OF LINES

Notes:

1. Temporary marking locations shall conform with section 812 of the Standard Specifications for Construction.
2. See PAVE-905 for locations of permanent pavement marking lines.
3. Remove pavement markings that conflict with proposed temporary traffic markings before making any changes in traffic pattern. Do not use paint or bituminous bond coat to cover existing and inappropriate pavement markings. Tape may only be used with approval of the Engineer.

NOT TO SCALE

NOTICE TO BIDDERS - INQUIRY

All inquiries concerning the plans and proposal for this project are to be directed to:

Brent Schriner

Name

Urban 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: **MI20220001 02/25/2022**

Superseded General Decision Number: MI20210001

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 $15.00 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 2022.
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 $11.25 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 2022.

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 https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	01/21/2022
2	02/11/2022
3	02/25/2022

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 06/01/2021

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver	$ 29.11	7.20+32%
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers	$ 42.55	7.20+32%
Journeyman Specialist	$ 48.93	7.20+32%
Operator A	$ 35.96	7.20+32%
Operator B	$ 33.57	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 06/01/2021

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	$ 48.02	24.85
GROUP 2	$ 49.02	24.85
GROUP 3	$ 46.52	24.85
GROUP 4	$ 47.52	24.85
GROUP 5	$ 45.02	24.85
GROUP 6	$ 46.02	24.85
GROUP 7	$ 44.75	24.85
GROUP 8	$ 45.75	24.85
GROUP 9	$ 44.30	24.85
GROUP 10	$ 45.30	24.85
GROUP 11	$ 43.57	24.85
GROUP 12	$ 44.57	24.85
GROUP 13	$ 43.21	24.85
GROUP 14	$ 44.21	24.85
GROUP 15	$ 42.57	24.85
GROUP 16	$ 39.37	24.85
GROUP 17	$ 24.89	12.00
GROUP 18	$ 28.38	12.00

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 06/01/2021

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	$ 48.02	24.85
GROUP 2	$ 44.75	24.85
GROUP 3	$ 43.21	24.85
GROUP 4	$ 39.37	24.85
GROUP 5	$ 24.89	12.00
GROUP 6	$ 28.38	12.00
AREA 2		
GROUP 1	$ 48.02	24.85
GROUP 2	$ 44.75	24.85
GROUP 3	$ 43.21	24.85
GROUP 4	$ 39.37	24.85
GROUP 5	$ 24.89	12.00
GROUP 6	$ 28.38	12.00

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 09/01/2021

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	$ 37.63	24.85
GROUP 2	$ 32.90	24.85
GROUP 3	$ 32.17	24.85
GROUP 4	$ 31.60	24.85
GROUP 5	$ 23.15	12.05
AREA 2:		
GROUP 1	$ 35.92	24.85
GROUP 2	$ 31.03	24.85

GROUP 3.....	$ 30.53	24.85
GROUP 4.....	$ 30.25	24.85
GROUP 5.....	$ 23.15	12.05

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backfiller tamper; Backhoe; Batch plant operator (concrete); Clamshell; Concrete paver (2 drums or larger); Conveyor loader (Euclid type); Crane (crawler, truck type or pile driving); Dozer; Dragline; Elevating grader; Endloader; Gradall (and similar type machine); Grader; Mechanic; Power shovel; Roller (asphalt); Scraper (self-propelled or tractor drawn); Side boom tractor (type D-4 or equivalent and larger); Slip form paver; Slope paver; Trencher (over 8 ft. digging capacity); Well drilling rig; Concrete pump with boom operator; Hydro Excavator

GROUP 2: Boom truck (power swing type boom); Crusher; Hoist; Pump (1 or more - 6-in. discharge or larger - gas or diesel- powered or powered by generator of 300 amperes or more - inclusive of generator); Side boom tractor (smaller than type D-4 or equivalent); Tractor (pneu-tired, other than backhoe or front end loader); Trencher (8-ft. digging capacity and smaller);Vac Truck and End dump operator;

GROUP 3: Air compressors (600 cfm or larger); Air compressors (2 or more-less than 600 cfm); Boom truck (non-swinging, non- powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-1/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in. discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

GROUP 4: Boiler; Concrete saw (40 hp or over); Curing machine (self-propelled); Farm tractor (with attachment); Finishing machine (concrete); Hydraulic pipe pushing machine; Mulching equipment; Pumps (2 or more up to 4-in. discharge, if used 3 hours or more a day, gas or diesel powered - excluding submersible pumps); Roller (other than asphalt); Stump remover; Trencher (service); Vibrating compaction equipment, self-propelled (6 ft. wide or over); Sweeper (Wayne type); Water wagon and Extend-a boom forklift

Group 5: Fire Person, Oiler

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* ENGI0324-006 06/01/2021

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	$ 36.86	24.85
GROUP 2	$ 30.13	24.85
GROUP 3	$ 29.52	24.85
GROUP 4	$ 29.40	24.85

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 05/01/2021

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	$ 35.90	24.60
Crane operator, main boom & jib 120' or longer	$ 42.37	24.60
Crane operator, main boom & jib 140' or longer	$ 42.67	24.60
Crane operator, main boom & jib 220' or longer	$ 43.26	24.60

Mechanic with truck and tools	$ 41.50	24.60
Oiler and fireman	$ 34.36	24.60
Regular operator	$ 39.72	24.60

ENGI0324-008 10/01/2020

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	14.31
GROUP 2	$ 33.33	14.31

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system, including remote in-ground cutter and other equipment used in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation systems, water jetters and vacuum and mechanical debris removal systems

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ENGI0325-012 05/01/2021

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1	$ 33.48	24.85
GROUP 2	$ 31.45	24.85
GROUP 3	$ 29.60	24.45

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 06/01/2021

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.....	$ 36.45	27.65
General contracts less than $10,000,000.....	$ 36.45	27.65

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0025-002 06/01/2021

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		
Alcona, Alpena, Arenac, Cheboygan, Clare, Clinton, Crawford, Gladwin, Gratiot, Huron, Ingham, Iosco, Isabella, Jackson, Lapeer, Livingston (west of Burkhardt Road), Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Sanilac, Shiawassee, Tuscola & Washtenaw (west of U.S. 23)	$ 24.26	22.11
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	$ 25.48	23.11
IRONWORKER		
Ornamental and Structural	$ 36.77	29.03
Reinforcing	$ 32.99	30.76

IRON0055-005 07/01/2021

LENAWEE AND MONROE COUNTIES:

	Rates	Fringes
IRONWORKER		
Pre-engineered metal buildings	$ 23.59	19.35
All other work	$ 31.25	26.90

IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector)	$ 31.75	22.84

IRON0340-001 06/19/2017

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:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector)	$ 24.43	24.67

LABO0005-006 10/01/2020

	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	$ 23.58	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	$ 21.80	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 20.80	12.90

Laborers - hazardous waste
abatement: (ARENAC, BAY,
CLARE, GLADWIN, GRATIOT,
HURON, ISABELLA, MIDLAND,
OGEMAW, ROSCOMMON, SAGINAW
AND TUSCOLA COUNTIES - Zone 8)

Levels A, B or C	$ 21.39	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 20.80	12.90

Laborers - hazardous waste
abatement: (CLINTON, EATON
AND INGHAM COUNTIES; IONIA
COUNTY (City of Portland);
LIVINGSTON COUNTY (west of
Oak Grove Rd., including the

City of Howell) - Zone 6)
Levels A, B or C.....$ 25.64 12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 24.64 12.90
Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)
Levels A, B or C.....$ 24.20 13.80
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 23.20 13.80
Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEE COUNTIES - Zone 4)
Levels A, B or C.....$ 25.17 12.90
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.....$ 25.75 16.35
Work performed in
conjunction with site
preparation not requiring
the use of personal
protective equipment;
Also, Level D.....$ 24.75 16.35

LABO0259-001 09/01/2021

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES
AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,

IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1	$ 23.62	16.95
GROUP 2	$ 23.73	19.95
GROUP 3	$ 23.79	16.95
GROUP 4	$ 23.97	16.95
GROUP 5	$ 24.22	16.95
GROUP 6	$ 24.55	16.95
GROUP 7	$ 17.83	16.95
AREA 2		
GROUP 1	$ 25.15	12.95
GROUP 2	$ 25.24	12.95
GROUP 3	$ 25.34	12.95
GROUP 4	$ 25.50	12.95
GROUP 5	$ 25.76	12.95
GROUP 6	$ 26.07	12.95
GROUP 7	$ 18.34	12.95

SCOPE OF WORK: Tunnel, shaft and caisson work of every type and description and all operations incidental thereto, including, but not limited to, shafts and tunnels for sewers, water, subways, transportation, diversion, sewerage, caverns, shelters, aquafers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair,

cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LABO0334-001 09/01/2021

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1	$ 23.47	16.95
GROUP 2	$ 23.58	16.95
GROUP 3	$ 23.63	16.95
GROUP 4	$ 23.71	16.95
GROUP 5	$ 23.77	16.95
GROUP 6	$ 21.22	16.95
GROUP 7	$ 17.84	16.95
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1	$ 24.80	12.95
GROUP 2	$ 24.91	12.95
GROUP 3	$ 25.03	12.95
GROUP 4	$ 25.10	12.95
GROUP 5	$ 25.25	12.95
GROUP 6	$ 22.55	12.95
GROUP 7	$ 19.19	12.95

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	$ 22.99	12.95
GROUP 2	$ 23.13	12.95
GROUP 3	$ 23.25	12.95
GROUP 4	$ 23.30	12.95
GROUP 5	$ 23.44	12.95
GROUP 6	$ 20.74	12.95
GROUP 7	$ 17.89	12.95
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	$ 22.02	12.95
GROUP 2	$ 22.15	12.95
GROUP 3	$ 22.26	12.95
GROUP 4	$ 22.33	12.95
GROUP 5	$ 22.45	12.95
GROUP 6	$ 19.67	12.95
GROUP 7	$ 18.01	12.95

ZONE 5 - ALGER, BARAGA,
CHIPPEWA, DELTA,
DICKINSON, GOGEBIC,
HOUGHTON, IRON,
KEWEENAW, LUCE, MACKINAC,
MARQUETTE, MENOMINEE,
ONTONAGON AND SCHOOLCRAFT
COUNTIES:

GROUP 1	$ 22.24	12.95
GROUP 2	$ 22.38	12.95
GROUP 3	$ 22.51	12.95
GROUP 4	$ 22.56	12.95
GROUP 5	$ 22.61	12.95
GROUP 6	$ 19.99	12.95
GROUP 7	$ 18.10	12.95

SCOPE OF WORK:

Open cut construction work shall be construed to mean work which requires the excavation of earth including industrial, commercial and residential building site excavation and preparation, land balancing, demolition and removal of concrete and underground appurtenances, grading, paving, sewers, utilities and improvements; retention, oxidation, flocculation and irrigation facilities, and also including but not limited to underground piping, conduits, steel sheeting for underground construction, and all work incidental thereto, and general excavation. For all areas except the Upper Peninsula, open cut construction work shall also be construed to mean waterfront work, piers, docks, seawalls, breakwalls, marinas and all incidental work. Open cut construction work shall not include any structural modifications, alterations, additions and repairs to buildings, or highway work, including roads, streets, bridge construction and parking lots or steel erection work and excavation for the building itself and back filling inside of and within 5 ft. of the building and foundations, footings and piers for the building. Open cut construction work shall not include any work covered under Tunnel, Shaft and Caisson work.

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

GROUP 2: Mortar and material mixer, concrete form person, signal person, well point person, manhole, headwall and catch basin builder, headwall, seawall, breakwall and dock builder

GROUP 3: Air, gasoline and electric tool operator, vibrator operator, driller, pump person, tar kettle operator, bracer, rodder, reinforced steel or mesh person (e.g., wire mesh, steel mats, dowel bars, etc.), welder, pipe jacking and boring person, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger person and directional boring person

GROUP 4: Trench or excavating grade person

GROUP 5: Pipe layer (including crock, metal pipe, multi-plate or other conduits)

GROUP 6: Grouting man, audio-visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LABO0465-001 06/01/2021

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	$ 30.52	13.45
GROUP 2	$ 30.65	13.45
GROUP 3	$ 30.83	13.45
GROUP 4	$ 30.91	13.45
GROUP 5	$ 31.12	13.45
GROUP 6	$ 31.42	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 04/01/2021

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1	$ 23.92	12.95
Zone 2	$ 22.22	12.95
Zone 3	$ 20.35	12.95
Zone 4	$ 19.77	12.95
Zone 5	$ 19.75	12.95

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 06/02/2021

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER	$ 26.71	14.38

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

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TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1	$ 23.82	19.04

GROUP 2	$ 23.91	19.04
GROUP 3	$ 24.12	19.04
AREA 2		
GROUP 1	$ 24.12	19.04
GROUP 2	$ 24.26	19.04
GROUP 3	$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

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* SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person	$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 20.30	12.90
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 18.02	12.90
Pavement Marking Machine		

(ZONE 1: GENESEE, MACOMB,
MONROE, OAKLAND, WASHTENAW
AND WAYNE COUNTIES)
Group 1.....$ 27.07 12.90

Pavement Marking Machine
(ZONE 1: GENESEE, MACOMB,
MONROE, OAKLAND, WASHTENAW
AND WAYNE)
Group 2.....$ 24.36 12.90

Pavement Marking Machine
(ZONE 2: STATEWIDE (EXCLUDING
GENESEE, MACOMB, MONROE,
OAKLAND, WASHTENAW AND WAYNE
COUNTIES)
Group 1.....$ 24.02 12.90

Pavement Marking Machine
(ZONE 2: STATEWIDE (EXCLUDING
GENESEE, MACOMB, MONROE,
OAKLAND, WASHTENAW AND WAYNE)
Group 2.....$ 21.62 12.90

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 ($15.00) or 13658 ($11.25). 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"