

**ADDENDUM NO. 1 TO
SPECIFICATIONS AND CONTRACT DOCUMENTS FOR
MARYSVILLE CWSRF SANITARY SEWER IMPROVEMENTS**

Issued: March 21, 2022

HRC Job No. 20201050

Intent:

This Addendum No. 1 is issued prior to receipt of Bids to provide clarification relative to the Bidding Documents. Failure to include this Addendum No. 1 within the Bidding Documents may result in disqualification of the bid.

Pre-Bid Meeting held on 03/09/2022. Meeting Minutes have been included in this Addendum.

Changes to Specification Section 00300 – Proposal

1. Removed Item 16: Furnish and Install Inflow Dish Insert and re-numbered bid items to account for this change.
2. Updated the Permit Allowance Pay Item to **\$500.00**. The only cost to the contractor for permits will be a \$500 inspection deposit for the St. Clair County ROW Permit. All unused funds will be refundable.

Changes to Specification Section 00850- CWSRF Wage Decision Schedule

1. Updated the Prevailing Federal Wage Rates to the most recent version, dated 02/25/2022.

Changes to Specification Section 00851- CWSRF Requirements

1. Removed the Disadvantaged Business Enterprise (Good Faith Efforts) requirements information.

Changes to Specification Section 02990- Permits

1. Updated the required cost for each permit.
2. Included additional information for the St. Clair County ROW Permit.
3. Attached approved permits and additional information.

ACTION:

Replace Specification Section 00300 – Proposal with revised Specification Section 00300 – Proposal dated 03/21/2022.

Replace Specification Section 00850 – CWSRF Wage Decision Schedule with revised Specification Section 00850- CWSRF Wage Decision Schedule dated 03/21/2022.

Replace Specification Section 00851 – CWSRF Requirements with revised Specification Section 00851- CWSRF Requirements dated 03/21/2022.

Replace Specification Section 02030 – Sequence of Construction and Special Project Requirements with revised Specification Section 02030 – Sequence of Construction and Special Project Requirements dated 03/21/2022.

Bloomfield Hills
555 Hulet Drive
Bloomfield Hills, MI 48302
248-454-6300

Delhi Township
2101 Aurelius Rd.
Suite 2A
Holt, MI 48842
517-694-7760

Grand Rapids
1925 Breton Road SE
Suite 100
Grand Rapids, MI 49506
616-454-4286

Howell
105 W. Grand River
Howell, MI 48843
517-552-9199

Jackson
401 S. Mechanic St.
Suite B
Jackson, MI 49201
517-292-1295

Kalamazoo
834 King Highway
Suite 107
Kalamazoo, MI 49001
269-665-2005

Lansing
215 S. Washington
SQ
Suite D
Lansing, MI 48933
517-292-1488

QUESTIONS:

1. See Pre-bid Meeting Minutes for Contractor questions received as of 03/09/2022.
2. Question: Was the Pre-Bid Meeting held on 3/9/2022 mandatory?
Answer: No, this was not a mandatory Pre-Bid Meeting.
3. Question: We will be providing quotations for above ground video documentation on the above mentioned project. Please furnish the pertinent information requested below:
 - a. approximate linear footage or line item bid form
 - b. will above ground video documentation be required
 - c. your website if it provides this information**Answer: A: The exact footage will be dependent on the awarded Contractor's operations and what they determine is the area affected by their work. This item is incidental to the rehabilitation items and will only be required to ensure that the Contractor is restoring the affected area back to the existing condition. Some Contractors may limit their work to a smaller area than others, so it is up to them to determine the exact amount required to ensure the existing conditions are appropriately documented.**
B: Yes, above ground video documentation will be required, as stated in the specification Section 02031.
C: N/A- this information is not provided on our website.
4. Question: Can you please confirm that the attached Styrene monitoring plan will suffice for this project? HRC has approved this for other Michigan CIPP projects in the past.
Answer: The information that is required to be included in the styrene odor control plan is shown in specification Section 02708 and Section 02709. Styrene odor control plans will be reviewed along with the bids.
5. Question: Please confirm that tensile testing is not required since this is a gravity lining project.
Answer: Correct, tensile testing will not be required.
6. Question: Can you please clarify the groundwater level? Page 352 states 5' but page 351 states ½ pipe depth.
Answer: The Owner has indicated that groundwater has not been an issue in the past when performing spot repairs on the sanitary sewer system. Groundwater information has been included in the soil boring reports for the three (3) soil borings that were obtained (5' at B-1, 12' at B-2, and no groundwater present in 20' bore at B-3). For CIPP liner design purposes, a groundwater level of 5 feet should be used where groundwater information is not available.
7. Question: Are sewer videos available for review? We would like to make sure that obstructions that cannot be removed utilizing standard cleaning equipment and that will keep us from installing the liner will be handled as an extra and not incidental to our lining price.
Answer: Sewer videos have been uploaded for viewing (labelled by pipe ID) and can be found in this Dropbox link: <https://bit.ly/3qjtAni>
The removal of obstructions will not be handled as an extra and shall be considered incidental to the rehabilitation items. That being said, these pipes were cleaned when they were televised for SAW between 2016 and 2019.
8. Question: Is steam an acceptable curing method or is water the only option for this project?
Answer: Contractors are permitted to submit alternate construction methods not explicitly called out in the specs to the engineer for review. Steam is an acceptable curing method for 12" diameter pipes and smaller. It is not acceptable for pipes that are larger than 12" in diameter.

ATTACHMENTS:

1. Pre-bid Meeting Minutes from 03/09/2022.
2. Specification Section 00300 – Proposal dated 03/21/2022.
3. Specification Section 00850 – CWSRF Wage Decision Schedule dated 03/21/2022.
4. Specification Section 00851 – CWSRF Requirements dated 03/21/2022.
5. Specification Section 02990 – Permits dated 03/21/2022.

The Bidder shall acknowledge receipt of the Addendum No. 1 below and on the Proposal Form or the bid may not be considered.

Meeting Minutes CWSRF – Sanitary Sewer Improvements Project- Pre Bid Meeting City of Marysville

Date: March 9, 2022

HRC Job No. 20201050

Time: 10:00 am

Meeting Location: Marysville City Hall

<u>Attendee Name</u>	<u>Representing</u>	<u>Contact Information</u>
Mike Booth.....	City of Marysville	(810) 455 1314
Barry Kreiner.....	City of Marysville	(810) 650 3810
Kraig Hohf	City of Marysville.....	(810) 364 8340
Todd Postill.....	City of Marysville	(810)-455-1390
Jennifer Morreale.....	HRC	(248) 535 3320
Andrew Johnstone.....	HRC	(248) 535 3367
John Thompson	Granite Inliner	(734) 231 6691
Nick Vanbiesbronch	Synergy Equipment.....	(248) 318 8679
Steve Johnson	Advanced Underground	(734) 348 0112

PURPOSE: Desired Outcome: to review the requirements and details for the Marysville CWSRF Sanitary Sewer Improvements project and answer all Contractor questions.

AGENDA ITEMS

1. Introduction – City and HRC staff were introduced:
 - a. Barry Kreiner, DPW Director
 - b. Kraig Hohf, Supervisor
 - c. Todd Postill, Supervisor
 - d. Jennifer Morreale, Project Manager
 - e. Andrew Johnstone, Project Engineer
2. Project Summary
 - a. Manhole rehabilitation- The manhole rehabilitation items were reviewed, as shown on Section 00300 of the specifications.
 - i. Work Location Maps → Work Summary Tables – All work is shown on the work location maps and each manhole to be repaired has an associated line in the work summary tables. If desired, individual summary tables can be generated for each work location map.
 - b. Pipe rehabilitation – The pipe rehabilitation items were reviewed, as shown on Section 00300 of the specifications.
 - i. Work Location Maps → Work Summary Tables – Similar to the manhole work, the pipe rehabilitation is shown on the work location maps and each pipe to be rehabilitated has a line on the pipe rehabilitation summary table.

Delhi Township
2101 Aurelius Rd.
Suite 2A
Holt, MI 48842
517-694-7760

Detroit
535 Griswold St.
Buhl Building, Ste 1650
Detroit, MI 48226
313-965-3330

Grand Rapids
801 Broadway NW
Suite 215
Grand Rapids, MI 49504
616-454-4286

Howell
105 W. Grand River
Howell, MI 48843
517-552-9199

Jackson
401 S. Mechanic St.
Suite B
Jackson, MI 49201
517-292-1295

Kalamazoo
834 King Highway
Suite 107
Kalamazoo, MI 49001
269-665-2005

Lansing
215 S. Washington SQ
Suite D
Lansing, MI 48933
517-292-1488

- c. Replacement Locations – There are ten total replacement locations and detail sheets for each have been included in Attachment 3. All work required to perform replacement, as shown, shall be included in the lump sum bid price. If something is not shown on the estimated quantity table but Contractor believes it is necessary, the price for that work shall be included in the lump sum (LS) price and will not be eligible to be added after bids are received.
 - i. Open Cut- Locations 1, 2, 3, 4, 6, 7, 8, and 10 include open cut work.
 - ii. Pipe Bursting- Locations 5 and 9 include pipe bursting work.
 - iii. Jack and Bore- Location 10 includes a short section of jack and bore work. This is required because the County would not permit open cutting across Range Road.
 - d. Incidental Items – Many items are included as incidental to the rehabilitation items including mobilization, traffic control, audio/video route survey (only need to video areas affected by work), pipe preparation (cut attached encrustations/protruding laterals, cleaning, etc.), pre-rehab CCTV, post rehab CCTV, bypass pumping, tree removals, pavement removal & replacement, and all restoration items.
 - i. Full pipe replacements don't require pre-rehab CCTV, but all other pipe rehab will.
 - e. Restoration – Work sites shall be restored to existing condition or better. Seeding shall be used per the contract specifications. Sod will not be required. Typical pavement sections have been included in Attachment 4, but the Contractor will be required to replace the pavement to the existing depth.
 - f. Soil Borings – Borings have been obtained at three (3) locations, and this information is included in specification Section 01900. The City has indicated that groundwater is not typically an issue. Contractors shall review the soil boring reports and make their own determinations.
3. Traffic Control – Michigan Department of Transportation (MDOT) typical details have been provided in specification Section 01000, and shall be used as applicable.
 - a. Detour Plan for Replacement #4 – The Contractor will be required to follow the detour plan included in Attachment 5, unless Contractor does not close the turn lane from southbound Busha highway to westbound Gratiot. This will likely require smaller, specialized equipment. Contractor shall coordinate work with Engineer/Owner to ensure MDOT is notified a minimum of 10 days prior to working within their right-of-way. Gratiot and Busha Hwy. are both MDOT owned roads.
4. Soil Erosion and Sedimentation Control (SESC) – This will be required at locations 4 and 5 and as required by the specifications. SESC plans and permit will be issued with Addendum #1.
5. Testing-Materials testing will be handled by the Owner. BMJ Engineers & Surveyors, Inc. will be the testing company. This company is based out of Port Huron, but coordination with the Engineer/Owner will be necessary to ensure proper notification is given.
6. CWSRF Requirements
 - a. Prevailing Wages – Davis Bacon Wages are required for this job; an addendum will be issued with the latest wage determination or will include a note that no changes have been made since the issued for bids specifications have been issued.
 - b. Disadvantaged Business Enterprise Requirements (NOT REQUIRED) – Addendum 1 will address the removal of this section.
 - c. American Iron and Steel Requirements – This is required for any iron/steel materials to be installed. Must be American made/fabricated. This should not be relevant for this project; however, it is still a requirement and a review with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) will be necessary.
7. Important dates
 - a. Questions due – March 16, 2022
 - b. Bids due – March 31, 2022 by 2:00 p.m.
 - c. Substantial Completion – June 16, 2023
 - d. Final Completion – June 30, 2023

8. Permits – A permit allowance has been included in the proposal from, however, permits will be obtained at no cost to the Contractor.
 - a. MDOT ROW permit – This permit application has been approved and will be included with Addendum #1.
 - b. St. Clair County SESC permit – This permit application has been approved and will be included with Addendum #1. Contractor will be required to provide their information to the County and pick up this permit.
 - c. EGLE Part 41 Permit – This permit has been approved. This will not be included in the Addendum as it is not relevant to the Contractor.
9. Questions:
 1. Restoration will be required to be back to existing conditions, but will tree replanting be required?
 - a. Answer: No, Contractors will not be required to plant trees that have been removed.
 - i. Also, regarding restoration: pavement details have been included in Attachment 4; however, some locations may have pavement that is thicker than what is shown on the detail. For example, Replacement Location #6, off of Gratiot, likely has a 10" thick approach and would require replacement in kind.
 - Standard asphalt cross section on residential roads is 4 inches asphalt on 8 inches of aggregate base.
 2. 10 replacements have been included as part of this work. Will the videos be available for us to review?
 - a. Answer: Yes, videos will be provided upon request.
 3. If we review the videos and can make a determination that lining will be an adequate fix, can we recommend that?
 - a. Answer: HRC has already investigated this, and lining will likely not be possible as there was collapse or deformation that affects the cross section of the pipe. Contractors are free to suggest this if they feel the pipe can be lined. This recommendation will be reviewed by HRC.
 4. The type of work included on this job is conflicting. Would you consider separating the contracts so trenchless work could be separate from open cut work? This could be helpful for a few reasons:
 - Open cut contractors and trenchless contractors don't typically want to work together.
 - Some manhole rehabilitation contractors also typically only do the interior work and do not usually excavate to apply external chimney wraps. This would require an excavation sub-contractor.
 - a. Answer: HRC will look into separating the work into divisions, which can be awarded separately.
 - i. After internal discussions, HRC will not be adjusting the proposal form to divide work into additional divisions.
 - b. Side Note Discussion: This project has long been in the works. There has been a lot of studying which came out of the SAW Grant. The major issue that this project is trying to solve is the infiltration and inflow that enters the system.
 5. Are the lining types in MH called out?
 - a. Answer: Yes, these are called out on the work location maps and the work summary tables.
 6. Did you say we don't need to perform pre-rehabilitation CCTV?
 - a. Answer: Only the full pipe replacements will not require pre-rehabilitation CCTV.
 7. Will you accept other technologies for manhole repairs?
 - a. Answer: Contractors can propose tech that is considered equal to the proposed type. HRC will review and determine if it can be used.

These minutes are intended to be a summary of those items discussed. Any corrections and/or comments should be noted to the writer as soon as possible.

Respectfully submitted,

HUBBELL, ROTH & CLARK, INC.



Andrew Johnstone, P.E.
Staff Engineer
3/11/2022

AKJ/jlm

pc: All present
HRC: J. VanDeCreek, File
EGLE: K. Roeder, T. McDowell

PROPOSAL
FOR
CWSRF SANITARY SEWER IMPROVEMENTS
CITY OF MARYSVILLE
ST. CLAIR COUNTY, MICHIGAN

City of Marysville
1255 Delaware Ave.
Marysville, MI, 48040

Bids Due: **Thursday, March 31st, 2022**
On or Before **2:00 p.m., Local Time**
HRC Job No. 20201050

To Prospective Bidders:

Name of Bidder: _____

Address: _____

Date: _____ Telephone: _____ Fax: _____

The above, as Bidder, hereby declares this bid is made in good faith without fraud or collusion with any persons bidding, and that the Drawings, Specifications, and all other information referenced in the Instructions to Bidders have been examined. Further, the Bidder is familiar with the location of the work described herein and is fully informed as to the nature of the work and the conditions relating to the performance of the Contract.

The Bidder acknowledges that no representations or warranties of any nature whatsoever have been received, or are relied upon from the City of Marysville, its agents or employees, as to any conditions to be encountered in accomplishing the work and that the bid is based solely upon the Bidder's own independent judgment.

The above, as Bidder, hereby certifies that the Drawings, Specifications, and other data provided by the Owner for bidding purposes have been examined. Further, the undersigned certifies that the proposed construction methods have been reviewed and found acceptable for the conditions which can be anticipated from the information provided for bidding.

The Bidder hereby affirms that the site of work has been inspected and further declares that no charges in addition to the Individual Unit Prices shall be made on account of any job circumstances or field conditions which were present and/or ascertainable prior to the bidding. In addition, The Contractor, as such and as Bidder, shall make the determination as to existing soil conditions and shall also complete the work under whatever conditions created by the Contractor/Bidder's sequence of construction, construction methods, or other conditions the Contractor/Bidder may create, at no additional cost to the Owner.

The above, as Bidder, confirms knowledge of the location of the proposed CWSRF Sanitary Sewer Improvements and appurtenant construction in the City of Marysville, St. Clair County, Michigan, and the conditions under which it must be constructed; and also declares to have carefully examined the Drawings, Specifications, and Contract Documents which the Bidder understands and accepts as sufficient for the purpose of constructing said Sanitary Sewer Improvements Project, and appurtenant work, and agrees to contract with the City of Marysville to furnish all labor, materials, tools, equipment, facilities and supervision necessary to do all the work specified and prescribed for the City of Marysville, in strict accordance with the Owner's General Conditions, and with the full intent of the Drawings and Specifications, prepared by Hubbell, Roth & Clark, Consulting Engineers, and will accept in full payment therefore the sum of:

DIVISION 1: MANHOLE REHABILITATION

Item No.	Rehab Item	Qty.	Unit	Unit Cost	Total Cost
1	Remove & Replace Cover	3	Ea		
2	Remove & Reset Frame & Cover (Vegetation/Gravel)	10	Ea		
3	Remove & Reset Frame & Cover (Pavement)	5	Ea		
4	Remove & Replace Frame & Cover (Vegetation/Gravel)	3	Ea		
5	Remove & Replace Frame & Cover (Pavement)	3	Ea		
6	Replace Chimney	15	Ea		
7	Adjust Elevation (< 2 ft) to Bring to Grade	1	Ea		
8	Adjust Elevation 4" Above Grade	2	Ea		
9	Adjust Elevation 2" Above Grade	1	Ea		
10	Apply External Manhole Wrap/Seal	14	Ea		
11	Apply Internal Chemical Chimney Wrap/Seal	1	Ea		
12	Seal Joint(s) with Mortar	26	Ea		
13	Seal Leak(s) with Hydrophobic Grout	77	Ea		
14	Apply Internal Manhole Lining (per linear ft. depth)	220	Lft		
15	Furnish and Install O-Ring	1	Ea		
16	Complete Manhole Rebuild	1	Ea		
17	Point Inside Chimney with Mortar	79	Ea		
18	Vactor Manhole	4	Ea		
19	Furnish and Install new Sanitary Manhole (Vegetation)	1	Ea		
DIVISION 1 SUBTOTAL:					

DIVISION 2: PIPE REHABILITATION

Item No.	Rehab Item	Qty.	Unit	Unit Cost	Total Cost
*Pipe Replacement Work Items:					
20	Replacement Location #1	1	LS		
21	Replacement Location #2	1	LS		
22	Replacement Location #3	1	LS		
23	Replacement Location #4	1	LS		
24	Replacement Location #5	1	LS		
25	Replacement Location #6	1	LS		
26	Replacement Location #7	1	LS		
27	Replacement Location #8	1	LS		
28	Replacement Location #9	1	LS		
29	Replacement Location #10	1	LS		
Pipe Rehabilitation Items:					
30	Chemical Pipe Joint Grouting, (8"-12")	356	Ea		
31	Chemical Pipe Joint Grouting, (15"-24")	78	Ea		
32	Sewer, Cured-In-Place Pipe Lining, (8"-12")	11,886	Lft		
33	Sewer, Cured-In-Place Pipe Lining, (15"-24")	2,526	Lft		
34	Sewer, Cured-In-Place Pipe Lining, Sectional, (4 foot)	122	Ea		
35	Permit Allowance	1	LS	\$500	\$500
DIVISION 2 SUBTOTAL:					

DIVISION 3: AS-NEEDED WORK

**As-Needed Items:					
36	Conc. Pavt, Reinf., 9 inch	0	SYD		
37	HMA, MDOT 1300T	0	TON		
38	HMA, MDOT 1100L	0	TON		
39	Hand Patch, HMA	0	TON		
40	Contaminated Soils Disposal (Hazardous)	0	CYD		
41	Contaminated Soils Disposal (Non-Hazardous)	0	CYD		
DIVISION 3 SUBTOTAL:					\$0.00

TOTAL AMOUNT OF ALL DIVISIONS: _____

***Pipe Replacement Work Items:** Refer to Attachment 3: Pipe Replacement Detail Sheets for detailed information at each open cut location. Estimated quantities have been provided on the detail sheets, but Contractors are responsible for determining ALL work required to perform the open cut pipe repair and restore the site to existing conditions. ALL costs shall be included in the lump sum bid item for that location.

Pre-rehabilitation cleaning and CCTV is required for ALL pipes that have an associated rehabilitation item, excluding full pipe replacements. Sewer cleaning will only be required where necessary to complete the sewer televising, unless identified in the Work Summary Tables (Attachment 2). This pre-rehabilitation cleaning and CCTV is considered incidental to the rehabilitation items.

****As-Needed Items:** These items have been provided to be used on an as-needed basis and shall only be used when approved by the Owner/Engineer. Quantities shown are estimates and are subject to change. Unit prices for these items shall remain firm, regardless of any increase or decrease in quantity.

The Owner reserves the right to add or delete quantities from the Contract and adjustments will be subject to the availability of funds at the time of bid letting. Deletion or addition of quantities shall not be grounds for the low qualified bidder to adjust unit prices for the project that the Owner intends to execute as a Contract, nor shall the Contractor be entitled to compensation from unrealized profits resulting from the deletion of quantities.

The Owner, at its sole discretion, reserves the right to award to the Bidder who, in the sole determination of the Owner, will best serve the interest of the Owner. The Owner reserves the right to accept any bid or any Division, to reject any or all bids or any Division, to waive any and all informalities involving price, time, or changes in the work, and to negotiate contract terms with the successful Bidder, and the right to disregard all

nonconforming, nonresponsive, unbalanced, or conditional bids. However, it is the intention of the Owner to award to the low total bid to one bidder. Also, the Owner reserves the right to reject the bid of any Bidder if the Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the bid is not responsive or the Bidder is unqualified, of doubtful financial ability, or fails to meet any other pertinent standard or criteria established by the Owner.

Each bidder agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

Each Proposal must be accompanied by a bid deposit in the form of a certified check, cashier's check or bid bond, executed by the bidder and Surety Company, payable to the City of Marysville in the amount of Five Percent (5%) of the amount of the Proposal. See Instructions to Bidders – Bid Deposit for more information.

TAXES

The Bidder affirms that all applicable Federal, State and Local taxes of whatever character and description are included in all prices stated in this Form of Proposal.

ADDENDA

The Bidder acknowledges the following Addenda, covering revisions to the drawings or specifications and the cost, if any, of such revision has been included in the quoted proposal:

Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____

FEES

The Bidder shall refer to the General Conditions for allowable Fees for additional work performed, upon Owner's written authorization, by Bidder's own forces and/or for additional work, upon Owner's written authorization, by Bidder's subcontractors.

TIME OF COMPLETION

If awarded the Contract for the **CWSRF Sanitary Sewer Improvements Project**, we agree to have all work substantially completed by **Friday, June 16, 2023**. Substantial Completion is defined that the facility is ready to use for its intended purpose with all utility systems fully functional.

The Bidder hereby agrees to furnish the required Bonds, Insurance Certificates, and Policies within ten (10) days after acceptance of this Proposal.

Final Completion with all clean-up, restoration, and punch-list items shall be complete **by Friday, June 30, 2023**.

The execution of all work and specific constraints as described in the contract drawings and specifications herein must be strictly adhered to.

LIQUIDATED DAMAGES

The Bidder guarantees that the work will be completed within the time limit stated herein before or within the time as extended as provided elsewhere in the Specifications. Inasmuch as the damage and loss to the Owner which will result from the failure of the Bidder to complete the work within the stipulated time, will be most difficult or impossible to accurately determine, it is mutually agreed that the damages to the Owner for such delay and failure on the part of the Bidder shall be liquidated in the amount of Eight Hundred Dollars (\$800.00), for each and every calendar day by which the Bidder shall fail to complete the work or any part thereof within the provisions hereof, and such liquidated damages shall not be considered as a penalty.

The Owner will deduct and retain out of any money due or to become due hereunder the amount of the liquidated damages, and in case those amounts are less than the amount of actual liquidated damages, the Bidder shall pay the difference upon demand of the Owner.

We understand that liquidated damages may be assessed should we fail to meet the stipulated completion dates. Specifically, liquidated damages will be assessed daily beginning **June 16, 2023** until such a time that Substantial Completion is achieved and further if all work is not completed by the Final Completion Date, **June 30, 2023**.

BIDS TO REMAIN FIRM

The price stated in this Proposal shall be guaranteed for a period of not less than sixty (60) days from the bid due date and if authorized to proceed within that period, the bidder agrees to complete the work covered by the Proposal at said price.

If this Proposal is accepted by the Owner and the undersigned shall fail to contract as aforesaid and to furnish the required surety bonds within fifteen (15) days after being notified of the acceptance of their bid, then the undersigned shall be considered to have abandoned the contract, and the Certified Check, Cashier's Check or Bid Bond accompanying this Proposal shall be forfeited to the City of Marysville.

If the undersigned enters into the contract in accordance with their proposal, or if their proposal is not accepted, then the accompanying bid guarantee shall be returned to the undersigned.

Company Name: _____

Signature: _____ Title: _____

Address: _____

County: _____ State: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

LEGAL STATUS OF BIDDER

This Bid is submittal in the name of:

(Print) _____

The undersigned hereby designates below the business address to which all notices, directions or other communications may be served or mailed:

Street _____

City _____

State _____ Zip Code _____

The undersigned hereby declares the legal status checked below:

- ☐ INDIVIDUAL
- ☐ INDIVIDUAL DOING BUSINESS UNDER AN ASSUMED NAME
The Assumed Name of the Co-Partnership is registered in the County of _____, Michigan
- ☐ CO-PARTNERSHIP
The Assumed Name of the Co-Partnership is registered in the County of _____, Michigan
- ☐ CORPORATION INCORPORATED UNDER THE LAWS OF THE STATE OF _____
_____. The Corporation is
- ☐ LICENSED TO DO BUSINESS IN MICHIGAN
- ☐ NOT NOW LICENSED TO DO BUSINESS IN MICHIGAN

The name, titles, and home addresses of all persons who are officers or partners in the organization are as follows:

A corporation duly organized and doing business under the laws of the State of _____

NAME AND TITLE

HOME ADDRESS

Signed and Sealed this _____ day of _____, 20__.

By (Signature) _____

Printed Name of Signer _____

Title _____

BID BOND

We, the undersigned, _____

As Principal, hereinafter called the Principal, and _____

A corporation duly organized under the laws of the State of _____

As surety, hereinafter called the SURETY, are held and firmly bound unto:

The Owner: _____

in the sum of _____ Dollars (\$ _____),

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

WHEREAS, the Principal has submitted a bid for _____

NOW, THEREFORE, if the OWNER shall accept the bid of the Principal and the Principal shall enter into a contract with the OWNER in accordance with the terms of such bid, and give such bond or bonds as may be specified in the CONTRACT DOCUMENTS with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the OWNER the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the OWNER may in good faith contract with another party to perform the work covered by said bid, then the obligation of the Principal shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____, 20____

(Witness)

(Principal)

(Seal)

(Title)

(Witness)

(Surety)

(Title)

END OF SECTION

SECTION 00850

**CLEAN WATER STATE REVOLVING FUND
WAGE DECISION SCHEDULE**

PART I – GENERAL

1.01 The project will be financed with assistance from the State of Michigan Revolving Funds using federal assistance. The following requirements are applicable to this contract.

A. Prevailing Federal Wage Rates

1.02 P.L. 111-88 requires compliance with the Davis Bacon Act and adherence to the current U.S. Department of Labor Wage Decision. Attention is called to the fact that not less than the minimum salaries and wages as set forth in the Contract Documents (see Wage Decision included herein) must be paid on this project. The Wage Decision, including modifications, must be posted by the Contractor on the job site. A copy of the Federal Labor Standards Provisions is included and is hereby a part of this contract.

"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	. Executive Order 14026	
into on or after January 30,	generally applies to the	
2022, or the contract is	contract.	
renewed or extended (e.g., an	. The contractor must pay	

option is exercised) on or	all covered workers at	
after January 30, 2022:	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	. Executive Order 13658	
or between January 1, 2015 and	generally applies to the	
January 29, 2022, and the	contract.	
contract is not renewed or	. The contractor must pay all	
extended on or after January	covered workers at least	
30, 2022:	\$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

--

* 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

--

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 LENAWEЕ 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, aquifers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog

house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips,

planter boxes, flagstones, etc.

--

LABO0334-001 09/01/2021

	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 LENAWEЕ 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. \$47.70 per week
b. \$68.70 daily

--

TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC,
BARAGA,

BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS,
CHARLEVOIX,
CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE,
GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO,
IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,
LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE,
MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE,
MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW,
ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE,
ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST.
CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND,
WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1.....	\$ 21.78	11.83
GROUP 2.....	\$ 25.27	11.8375
AREA 2		
GROUP 1.....	\$ 22.03	11.83
GROUP 2.....	\$ 25.02	11.8375

FOOTNOTE:

a. \$132.70 per week, plus \$17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

--

TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW
AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1.....	\$ 23.82	19.04
GROUP 2.....	\$ 23.91	19.04
GROUP 3.....	\$ 24.12	19.04
AREA 2		
GROUP 1.....	\$ 24.12	19.04
GROUP 2.....	\$ 24.26	19.04
GROUP 3.....	\$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July,
Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing,
grading, sewers, utilities and improvements; also including
but not limited to, tunnels, underground piping, retention,
oxidation, flocculation facilities, conduits, general
excavation and steel sheeting for underground construction.
Underground construction work shall not include any
structural modifications, alterations, additions and
repairs to buildings or highway work, including roads,
streets, bridge construction and parking lots or steel
erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8
cubic yards capacity or over, pole trailers, semis, low
boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards
capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

--

* SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person.....	\$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)....	\$ 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.

=====
==

** 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.

=====
==

END OF GENERAL DECISION"

29 CFR Part 5 – Labor Standards Provisions for Federally Assisted Projects

§ 5.5 Contract provisions and related matters.

(a) The Agency head shall cause or require the contracting officer to insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in Sec. 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, *Provided*, That such modifications are first approved by the Department of Labor):

(1) *Minimum wages.* (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) *Withholding.* The **City of Marysville** shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take

such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) *Payrolls and basic records.* (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347.pdf> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the (write the name of the agency) or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) *Apprentices and trainees--(i) Apprentices.* Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in

accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) *Trainees*. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) *Equal employment opportunity*. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) *Compliance with Copeland Act requirements*. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) *Subcontracts*. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) *Contract termination: debarment*. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) *Compliance with Davis-Bacon and Related Act requirements.* All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) *Disputes concerning labor standards.* Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) *Certification of eligibility.* (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) *Contract Work Hours and Safety Standards Act.* The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Sec. 5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible there for shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) *Withholding for unpaid wages and liquidated damages.* The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any

moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

SECTION 00851

**CLEAN WATER STATE REVOLVING FUND
DEBARMENT CERTIFICATION**

PART 1 – GENERAL

1.01 DEBARMENT CERTIFICATION

The prime contractor must provide a completed **Certification Regarding Debarment, Suspension, and Other Responsibility Matters Form** with its bid or proposal package to the owner (Attachment 2 of this Section).

Attachment 1

***Certification Regarding
Debarment, Suspension, and Other Responsibility Matters***

**Certification Regarding
Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies, to the best of its knowledge and belief, that it and its principals:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in transactions under federal nonprocurement programs by any federal department or agency;
- (2) Have not, within the three year period preceding the proposal, had one or more public transactions (federal, state, or local) terminated for cause or default; and
- (3) Are not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) and have not, within the three year period preceding the proposal, been convicted of or had a civil judgment rendered against it:
 - (a) For the commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction (federal, state, or local) or a procurement contract under such a public transaction;
 - (b) For the violation of federal or state antitrust statutes, including those proscribing price fixing between competitors, the allocation of customers between competitors, or bid rigging; or
 - (c) For the commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

I understand that a false statement on this certification may be grounds for the rejection of this proposal or the termination of the award. In addition, under 18 U.S.C. §1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to five years, or both.

Name and Title of Authorized Representative

Name of Participant Agency or Firm

Signature of Authorized Representative

Date

☐ I am unable to certify to the above statement. Attached is my explanation.

SECTION 02990

PERMITS

PART 1 GENERAL

1.1 GENERAL

- A. The Permits included in this Section have been applied for by the Owner with the cost to the Contractor noted. They are provided as information for the Contractor because the requirements and regulations contained in these documents shall be adhered to by the Contractor as they pertain to the work done under this Contract.
- B. Should any contradictions or discrepancies between the requirements of the Permits Section and other Sections of these Specifications be found, this sections language shall have precedence.

1.2 RELATED SECTIONS

- A. Section 01000- General Specifications
- B. Section 02220 - Soil Erosion Control
- C. Section 02550- Maintaining Traffic

1.3 PERMIT

- A. The following permits are contained hereinafter with costs to the Contractor noted.
 - 1. EGLE Part 41 Permit # _____ - \$0.00
 - 2. St. Clair County Soil Erosion & Sedimentation Control Permit # _____ - \$0.00
 - a. Contractor shall provide their information to the County to obtain the permit.
 - 3. St. Clair County Road Commission Permit # _____ - \$500 (unused amount is refundable)
 - a. Contractor shall adhere to the additional insurance requirements included in the St. Clair Count Road Commission Permit.
 - b. Contractor shall submit the St. Clair County Bond, which is a \$10,000 continuous surety bond to be held by the County for two years.
 - 4. MDOT ROW Permit # _____ - \$0.00
 - a. All attachments not already included in Contract Documents have been included.
- B. Contractor is required to obtain all permits prior to starting work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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

SITE NAME:	Marysville CM
PERMITEE CONTACT NAME:	Barry Kreiner
PERMITEE CONTACT PHONE NUMBER:	810 364-8340
PERMITEE CONTACT EMAIL:	bkreiner@cityofmarysville.com
SITE COUNTY:	St. Clair

PERMIT NUMBER:	P41003625 v. 1
PERMIT ISSUED DATE:	March 1, 2022
ISSUED TO:	City of Marysville
PROJECT NAME:	CWSRF Sanitary Sewer Improvements
PROJECT LOCATION:	City of Marysville

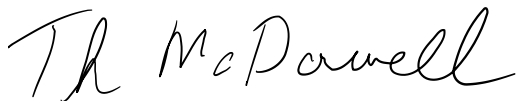
APPLICATION SUBMISSION NUMBER: HPE-0VYR-3CTGY

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

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

Issued By:

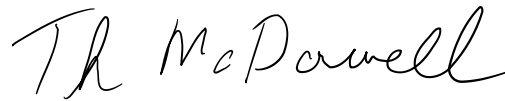
Insert Signature



Name Thomas McDowell, P.E.
Title Senior Environmental Engineer

Reviewed By:

Insert Signature



Name Thomas McDowell, P.E.
Title Senior Environmental Engineer

cc: EGLE CWSRF
Local Health Department
cc/enc: Design Engineer

GENERAL PERMIT CONDITIONS

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

SPECIAL PERMIT CONDITIONS

1. The permittee shall manage the discharge of the dewatered water such that the receiving water shall contain no unnatural turbidity, color, foams, settleable solids, suspended solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated uses.
2. If dewatering activity results in an adverse impact to an adjacent property, water body, water supply well, or wetland, the permittee should consider and may be responsible mitigate such impacts.
3. All sanitary sewer piping shall comply with and be installed in accordance with current ASTM standards.

FACILITIES DESCRIPTION

Existing facility consists of approximately 61 miles of sanitary sewer throughout the City of Marysville ranging from 6 to 30 inches in diameter. The proposed work will be rehabilitating this existing system at various locations throughout the system. A total of approximately 1,605 feet of sanitary sewer pipe will be replaced via open cut, 13,444 feet of pipe will be lined via full length cured-in-place pipe, and 660 feet of pipe will be lined via sectional cured-in-place pipe. Along with this, infiltration and inflow (I/I) will be reduced by chemically grouting sewer pipe joints, replacing manhole frames and covers, applying both internal and external wraps to manholes, replacing manhole chimneys, lining manholes, and fully rebuilding manholes where I/I have been identified. All of this work is shown in the attached document. The basis of design for all this work is documented in the December 20, 2019 SAW Report and in the June 1, 2021 CWSRF Project Plan Report (both documents are on file with EGLE and also submitted herewith).

ST. CLAIR COUNTY

HEALTH DEPARTMENT

Our Community. Our Environment.

3415 28th Street Port Huron MI 48060

ANNETTE MERCATANTE MD MPH
MEDICAL HEALTH OFFICER

GREG BROWN
ADMINISTRATOR

ADVISORY BOARD OF HEALTH

MARIE J. MULLER
CHAIRPERSON

JOHN F. JONES
VICE CHAIRPERSON

MONICA STANDEL
SECRETARY

ARNIE KOONTZ

SUSHMA REDDY, M.D.

LISA BEEON
COUNTY COMMISSIONER

Divisions

ADMINISTRATION
P 810.987.5300
F 810.985.2150

DENTAL CLINIC
P 810.984.5197
F 810.984.0747

EMERGENCY PREPAREDNESS
P 810.987.5300
F 810.987.0630

ENVIRONMENTAL HEALTH
P 810.987.5306
F 910.985.5533

HEALTH EDUCATION
P 810.987.5300
F 810.986.2150

NURSING DIVISION
P 810.987.5300
F 810.985.4487

TEEN HEALTH
P 810.987.1311
F 810.966.2898

WIC PROGRAM
P 810.987.8222
F 810.966.2898



www.scchealth.co

[f /scchdmi](https://www.facebook.com/scchdmi) | [i @scchdmi](https://www.instagram.com/scchdmi)

February 4, 2022

CITY OF MARYSVILLE
BARRY KREINER
200 E 14TH STREET
MARYSVILLE MI 48040

SUBJECT: Soil erosion for 410 Gratiot Avenue / City of Marysville

Soil erosion and sedimentation plans for the above referenced project have been reviewed and approved.

Your permit will be issued to you when the following is provided:

- Completion of Section #4 of the application, *Name of Individual On Site Responsible for Earth Change* (copy enclosed)
- The bond requirement for the project has been waived

If you have any questions, please contact me at (810) 987-5306.

Sincerely,

ST. CLAIR COUNTY HEALTH DEPARTMENT
Environmental Health Division

KATIE FRENDT
Area Sanitarian

Enclosure

ST. CLAIR COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
3415 – 28th STREET
PORT HURON MICHIGAN 48060
(810) 987-5306 / Fax: (810) 985-5533
environmentalhealth@stclaircounty.org

OFFICE USE ONLY

Date:

Amount:

Receipt #:

Permit #:

PERMIT APPLICATION
For Part 91
SOIL EROSION AND SEDIMENTATION CONTROL

1. APPLICANT

Name	<input checked="" type="checkbox"/> Landowner	<input type="checkbox"/> Designated Agent
City of Marysville- Barry Kreiner		
Address	200 E 14th St.	City Marysville State MI Zip Code 48040
Email	bkreiner@cityofmarysvillemi.com Phone Number 810-650-3810	

2. LOCATION

Township	n/a	City/Village	Marysville	County	ST. CLAIR
Property Tax ID Number	03-029-3004-000	Street Address	410 Gratiot Blvd.		
Subdivision	n/a	Section	29	Town	6 North Range 17 East

3. PROPOSED EARTH CHANGE

Project Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Multi-family	<input checked="" type="checkbox"/> Commercial
	<input type="checkbox"/> Industrial	<input type="checkbox"/> Land Balancing	
Describe Project Sanitary sewer pipe repair via open cut excavation. Remove and replace 10 feet of 15" PVC sanitary sewer pipe.			Size of Earth Change (acres or square feet) 0.01 Acres
Name of and Distance to Nearest Lake, Stream, or Drain Bunce Creek, approx. 40' from project		Date Project to Start 7/1/2022	Date Project to be Completed 9/1/2023

4. RESPONSIBLE FOR EARTH CHANGE

Name of Landowner (if not provided in Box No. 1 above)		Address	
City	State	Zip Code	Phone Number
Name of Individual "On Site" Responsible for Earth Change		Company Name	
Address	City	State	Zip Code
Email	Phone Number		


5. SOIL EROSION AND SEDIMENTATION CONTROL PLAN (Refer to Rule 323.1703)

Note: <u>ONE (1)</u> complete set of plans must be submitted for our records. Submit additional copies only if you need stamped, approved plans returned to you.	Estimated Cost of Erosion and Sediment Control \$250
	Plan Preparer's Name and Telephone Number Andrew Johnstone, P.E. (248) 535-3367

6. PERFORMANCE DEPOSIT (If required by the permitting agency)

Amount Required \$	<input type="checkbox"/> Cash	<input type="checkbox"/> Certified Check	<input type="checkbox"/> Irrevocable Letter of Credit	<input type="checkbox"/> Surety Bond
Name of Surety Company				
Address	City	State	Zip Code	Area Code/Telephone No.

I (we) affirm that the above information is accurate and that I (we) will conduct the above described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended, applicable local ordinances, and the documents accompanying this application.

Landowner's Signature	Print Name	Date
Designated Agent's Signature*	Print Name	Date
	Barry Kreiner	1-21-22

Commercial use only

Please complete and include this page with SESC plans.

Note: "OC Detail" refers to the Open Cut Location #4 Pipe 5485 (attached)

Have	Need	✓ SITE PLAN CHECKLIST FOR SOIL EROSION PERMITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Drawing must be to scale (map scale: 1"= 200' or less) shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site location map showing nearest road intersection shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Legal description of property (i.e. T35N, R25W, Section 17, NW1/4, NE1/4) on permit app sheet
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of each proposed earth change (clearly defined ON DRAWING) shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of all temporary soil stockpiles shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Major geographic and vegetative features shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of all existing buildings and structures shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of all tree lines and forested areas shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Soils information (on drawing or in written form) SOIL TYPE: shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Distance to nearest water body (lake, stream, river, county drain, wetland, etc.) for each proposed earth change shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of all existing and proposed drainage and dewatering facilities storm sewer info shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Slope information or topography shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and detailed description of all <i>temporary</i> erosion and sedimentation control measures (shown on drawing) on OC detail aerial and SESC details
<input type="checkbox"/>	<input type="checkbox"/>	Location and detailed description of all <i>permanent</i> erosion and sedimentation control measures (shown on drawing) n/a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Maintenance program for erosion and sedimentation control measures (including persons responsible) Described on SESC details
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Timing and sequence of construction (construction schedule) shown on OC detail and described on SESC details

Type of Earth Change

- | | | |
|--|--|--|
| <input type="checkbox"/> single family residence (new construction) | <input type="checkbox"/> commercial/industrial (new) | <input type="checkbox"/> road |
| <input type="checkbox"/> single family residence (addition/alteration) | <input type="checkbox"/> commercial/industrial (add./alt.) | <input checked="" type="checkbox"/> pipeline |
| <input type="checkbox"/> garage (addition or detached) | <input type="checkbox"/> residential development (subd., multi-family) | <input type="checkbox"/> utility |
| <input type="checkbox"/> pole barn | <input type="checkbox"/> recreation development | <input type="checkbox"/> school / church |
| <input type="checkbox"/> pool (in ground) | <input type="checkbox"/> golf course | <input type="checkbox"/> hospital |
| <input type="checkbox"/> pond | <input type="checkbox"/> wetland mitigation | <input type="checkbox"/> other |

Approximate Project Timing (Month/Year)

MINOR PROJECTS

- ____ / ____ Temporary Erosion Control Measures Installed
 ____ / ____ Gravel Drive/Entrance Installed
 ____ / ____ Land Cleared or Excavation Started
 Application submitted for plan review. Contractor (responsible party) to provide Section 4 information and construction schedule once contract has been awarded.
 ____ / ____ Final Grading/Seeding
 ____ / ____ Permanent Erosion Control Measures in Place
 ____ / ____ Temporary Erosion Control Measures Removed

MAJOR PROJECTS

- ____ / ____ Temporary Erosion Control Measures Installed
 ____ / ____ Gravel Drive/Entrance Installed
 ____ / ____ Land Cleared or Excavation Started
 ____ / ____ Detention/Retention/Sediment Ponds Installed
 ____ / ____ Road Constructed
 ____ / ____ Utilities Installed
 ____ / ____ Final Grading/Seeding
 ____ / ____ Catch Basins/Ponds Cleaned
 ____ / ____ Permanent Erosion Control Measures in Place
 ____ / ____ Temporary Erosion Control Measures Removed

If your earth moving activity affects a County drain, contact your local drain office.
If your earth moving activity will occur in a wetland or flood plain, contact MDEQ.

\\20201002010004_Design\01_Collection\Project_Docs\Open_Cut_Location\OpenCutDetailsReplacement_Details_all.pdf

Work Location Map: 23

**! CAUTION !
UNDERGROUND
UTILITIES**

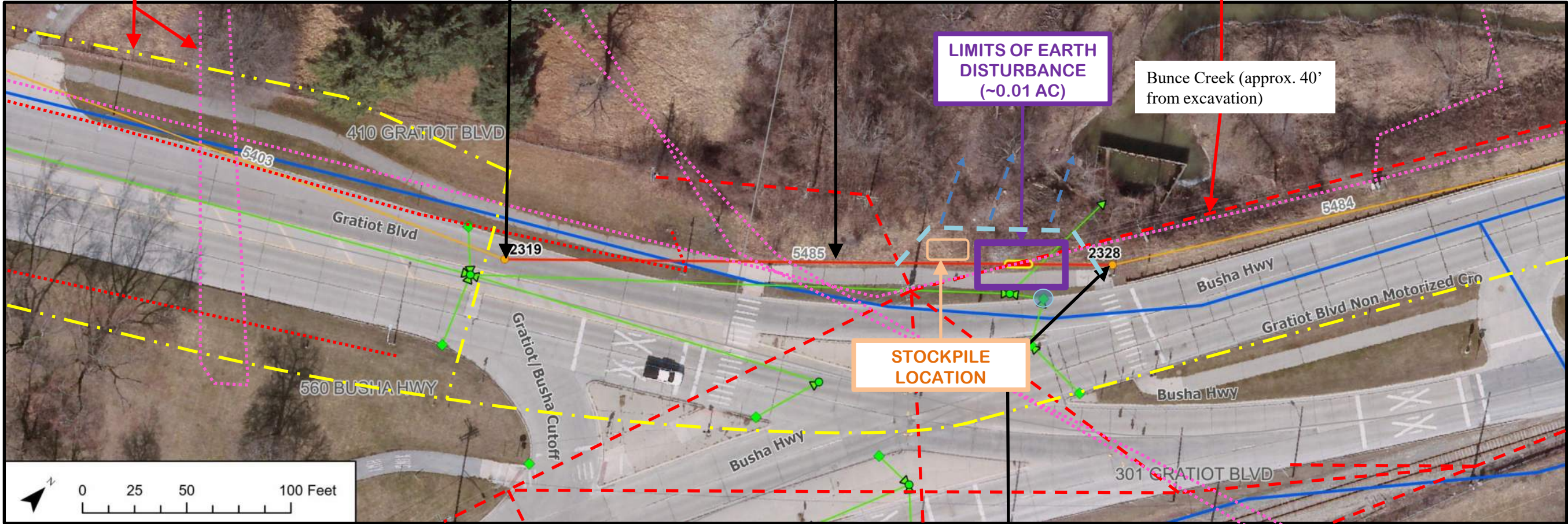
MH: 2319
RIM EL: 599.91'
RIM TO INV. DEPTH
NORTHEAST: N/A

PIPE: 5485
LENGTH: 292'
DIAMETER: 15"
MATERIAL: STEEL
REPLACEMENT SECTION:
20' (40' FROM MH 2328)

**! CAUTION !
OVERHEAD
ELECTRICAL**

Legend

- Storm Inlet
- Storm Manhole
- Storm Pipe
- Water Main
- Underground Gas
- Underground Electric
- Overhead Electric
- Underground Telecommunications
- Overhead Telecommunications



Sanitary Manholes Rehab

- No Rehab
- Rebuild Asphalt
- Rebuild Concrete
- Rebuild Grass
- See Detailed Rehab

Sanitary Pipes Rehab

- No Rehab
- Spot Repair Only
- Spot + Heavy Cleaning
- Pipe Rehab Only
- Spot + Pipe Rehab
- Pipe Replacement
- Parcels



- SEQUENCE OF CONSTRUCTION – SOIL EROSION CONTROL:**
1. INSTALL SOIL EROSION CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. COMPLETE PROPOSED WORK.
 3. COMPLETE SITE RESTORATION WITHIN TWO (2) WEEKS OF PROJECT SUBSTANTIAL COMPLETION.
 4. REMOVE SESC MEASURES AFTER ESTABLISHMENT OF RESTORATION.

USGS SOIL CLASSIFICATIONS	
SOIL TYPE	PERCENT OF CONSTRUCTION AREA
Wainola-Deford fine sands, 0 to 2 percent slopes	100%

MH: 2328
RIM EL: 597.56'
RIM TO INV. DEPTH SOUTHWEST: 11.95'



SESC LEGEND

- SILT FENCE
- LIMITS OF EARTH DISTURBANCE
- CATCH BASIN INSERT
- EXISTING SLOPE

- EROSION CONTROL STANDARD NOTES**
1. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE SESC STANDARD DETAIL SHEET.
 2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE CONTRACTOR.
 3. EROSION AND SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.
 4. THE CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS DIRECTED ON THESE PLANS AND WHERE OTHERWISE REQUIRED BY WORK. THE CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPE, DITCHES AND OTHER CHANGES HAVE BEEN ACCOMPLISHED.
 5. THE CONTRACTOR SHALL PRESERVE OFF-SITE NATURAL VEGETATION AS MUCH AS POSSIBLE.
 6. STABILIZATION OF ALL DISTURBED AREAS SHALL BE ESTABLISHED USING THE APPROPRIATE VEGETATION WITHIN FIVE (5) DAYS OF COMPLETION OF FINAL GRADING.
 7. THE CONTRACTOR SHALL SWEEP THE EXISTING STREETS SURROUNDING THE PROJECT SITE AS NEEDED.
 8. CONTRACTOR SHALL CLEAN SILT SACK SEDIMENT FILTERS AFTER EACH SIGNIFICANT RAINFALL EVENT OR EVERY TWO (2) WEEKS WHICHEVER IS MORE FREQUENT.
 9. ALL SOIL EROSION CONTROL MEASURES AS SHOWN ON THESE PLANS OR AS NEEDED TO COMPLETE THIS PROJECT WILL BE CONSIDERED INCIDENTAL TO THE ASSOCIATED OPEN CUT WORK ITEM, AND SHALL NOT BE PAID FOR SEPARATELY. ADDITIONAL SILT FENCE AND/OR OTHER SOIL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE PROJECT ENGINEER WHERE GRADES DICTATE AND A MINIMUM 25' VEGETATIVE BUFFER DOES NOT EXIST. THE COSTS FOR ANY ADDITIONAL SILT FENCE SHALL ALSO BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID ITEM FOR THE ASSOCIATED OPEN CUT WORK ITEM.
 10. SEDIMENT COLLECTED IN THE EXISTING DITCHES SHALL BE REMOVED AND DISPOSED OF PROPERLY IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS. CONTRACTOR TO RESTORE ALL DITCHES TO EXISTING CONDITIONS IN ACCORDANCE WITH RESTORATION NOTES.
 11. SILT FENCE TO BE PLACED AROUND SPOILS PILES AND WITHIN STAGING AREAS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROJECT.

811

THREE FULL WORKING DAYS BEFORE YOU DIG, CALL THE MISS DIG SYSTEM AT 800-482-7171 OR 811.

NOTE: PRIOR TO CONSTRUCTION, THE LOCATIONS AND DEPTHS OF ALL UTILITIES IN CONFLICT WITH PROPOSED WORK SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

City of Marysville
CWSRF Sanitary Sewer Improvements

Replacement Location #4:
Pipe 5485

HRC Job No: 20201050	Scale: As Shown
Date: December 2021	Figure: Figure 4

ST. CLAIR COUNTY HEALTH DEPARTMENT

Our Community. Our Environment.

3415 28th Street Port Huron MI 48060

ANNETTE MERCATANTE MD MPH
MEDICAL HEALTH OFFICER

GREG BROWN
ADMINISTRATOR

ADVISORY BOARD OF HEALTH

MARIE J. MULLER
CHAIRPERSON

JOHN F. JONES
VICE CHAIRPERSON

MONICA STANDEL
SECRETARY

ARNIE KOONTZ

SUSHMA REDDY, M.D.

LISA BEEDON
COUNTY COMMISSIONER

Divisions

ADMINISTRATION
P 810.987.5300
F 810.985.2150

DENTAL CLINIC
P 810.984.5197
F 810.984.0747

EMERGENCY PREPAREDNESS
P 810.987.5300
F 810.987.0630

ENVIRONMENTAL HEALTH
P 810.987.5306
F 910.985.5533

HEALTH EDUCATION
P 810.987.5300
F 810.986.2150

NURSING DIVISION
P 810.987.5300
F 810.985.4487

TEEN HEALTH
P 810.987.1311
F 810.966.2898

WIC PROGRAM
P 810.987.8222
F 810.966.2898



www.scchealth.co

[f/scchdmi](https://www.facebook.com/scchdmi) | scchdmi@scchealth.co

February 4, 2022

CITY OF MARYSVILLE
BARRY KREINER
200 E 14TH STREET
MARYSVILLE MI 48040

SUBJECT: Soil erosion for 3863 Ravenswood – 3841 Ravenswood
City of Marysville

Soil erosion and sedimentation plans for the above referenced project
have been reviewed and approved.

Your permit will be issued to you when the following is provided:

- Completion of Section #4 of the application, *Name of Individual On Site Responsible for Earth Change* (copy enclosed)
- The bond requirement for the project has been waived

If you have any questions, please contact me at (810) 987-5306.

Sincerely,

ST. CLAIR COUNTY HEALTH DEPARTMENT
Environmental Health Division

KATIE FRENDT
Area Sanitarian

Enclosure

ST. CLAIR COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
3415 - 28th STREET
PORT HURON MICHIGAN 48060
(810) 987-5306 / Fax: (810) 985-5533
environmentalhealth@stclaircounty.org

OFFICE USE ONLY

Date:

Amount:

Receipt #:

Permit #:

PERMIT APPLICATION
For Part 91
SOIL EROSION AND SEDIMENTATION CONTROL

1. APPLICANT

Name	<input checked="" type="checkbox"/> Landowner	<input type="checkbox"/> Designated Agent
City of Marysville- Barry Kreiner		
Address	200 E 14th St.	City Marysville State MI Zip Code 48040
Email	bkreiner@cityofmarysvillemi.com Phone Number 810-650-3810	

2. LOCATION

Township	n/a	City/Village	Marysville	County	ST. CLAIR
Property Tax ID Number	03-106-0011-000	Street Address	3863 Ravenswood - 3841 Ravenswood		
Subdivision	n/a	Section	29	Town	6 North Range 17 East

3. PROPOSED EARTH CHANGE

Project Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Multi-family	<input checked="" type="checkbox"/> Commercial		
	<input type="checkbox"/> Industrial	<input type="checkbox"/> Land Balancing			
Describe Project Sanitary sewer pipe repair via open cut excavation. Pipe is located behind the following addresses in Marysville, MI 48040: 3863, 3861, 3845, and 3841 Ravenswood Road. Project will include removing and replacing 325 feet of 10" sanitary sewer pipe.			Size of Earth Change (acres or square feet) 0.20 Acres		
Name of and Distance to Nearest Lake, Stream, or Drain Bunce Creek, approx. 60' from project		Date Project to Start	7/1/2022	Date Project to be Completed	9/1/2023

4. RESPONSIBLE FOR EARTH CHANGE

Name of Landowner (if not provided in Box No. 1 above)		Address	
City	State	Zip Code	Phone Number
Name of Individual "On Site" Responsible for Earth Change		Company Name	
Address	City	State	Zip Code
Email	Phone Number		


5. SOIL EROSION AND SEDIMENTATION CONTROL PLAN (Refer to Rule 323.1703)

Note: ONE (1) complete set of plans must be submitted for our records. Submit additional copies only if you need stamped, approved plans returned to you.	Estimated Cost of Erosion and Sediment Control \$1,000
	Plan Preparer's Name and Telephone Number Andrew Johnstone, P.E. (248) 535-3367

6. PERFORMANCE DEPOSIT (If required by the permitting agency)

Amount Required \$	<input type="checkbox"/> Cash	<input type="checkbox"/> Certified Check	<input type="checkbox"/> Irrevocable Letter of Credit	<input type="checkbox"/> Surety Bond
Name of Surety Company				
Address	City	State	Zip Code	Area Code/Telephone No.

I (we) affirm that the above information is accurate and that I (we) will conduct the above described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended, applicable local ordinances, and the documents accompanying this application.

Landowner's Signature	Print Name	Date
Designated Agent's Signature*	Print Name	Date
	Barry Kreiner	1-21-22

Commercial use only

Please complete and include this page with SESC plans.

Note: "OC Detail" refers to the Open Cut Location #5 Pipe 5489 (attached)

Have	Need	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓ SITE PLAN CHECKLIST FOR SOIL EROSION PERMITS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Drawing must be to scale (map scale: 1"= 200' or less) shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site location map showing nearest road intersection shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Legal description of property (i.e. T35N, R25W, Section 17, NW1/4, NE1/4) on permit app sheet
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of each proposed earth change (clearly defined ON DRAWING) shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of all temporary soil stockpiles shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Major geographic and vegetative features shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and size of all existing buildings and structures shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of all tree lines and forested areas shown on OC detail (aerial)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Soils information (on drawing or in written form) SOIL TYPE: shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Distance to nearest water body (lake, stream, river, county drain, wetland, etc.) for each proposed earth change shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of all existing and proposed drainage and dewatering facilities storm sewer info shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Slope information or topography shown on OC detail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and detailed description of all <i>temporary</i> erosion and sedimentation control measures (shown on drawing) on OC detail aerial and SESC details
<input type="checkbox"/>	<input type="checkbox"/>	Location and detailed description of all <i>permanent</i> erosion and sedimentation control measures (shown on drawing) n/a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Maintenance program for erosion and sedimentation control measures (including persons responsible) Described on SESC details
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Timing and sequence of construction (construction schedule) shown on OC detail and described on SESC details

Type of Earth Change

- | | | |
|--|--|--|
| <input type="checkbox"/> single family residence (new construction) | <input type="checkbox"/> commercial/industrial (new) | <input type="checkbox"/> road |
| <input type="checkbox"/> single family residence (addition/alteration) | <input type="checkbox"/> commercial/industrial (add./alt.) | <input checked="" type="checkbox"/> pipeline |
| <input type="checkbox"/> garage (addition or detached) | <input type="checkbox"/> residential development (subd., multi-family) | <input type="checkbox"/> utility |
| <input type="checkbox"/> pole barn | <input type="checkbox"/> recreation development | <input type="checkbox"/> school / church |
| <input type="checkbox"/> pool (in ground) | <input type="checkbox"/> golf course | <input type="checkbox"/> hospital |
| <input type="checkbox"/> pond | <input type="checkbox"/> wetland mitigation | <input type="checkbox"/> other |

Approximate Project Timing (Month/Year)

MINOR PROJECTS

- ____ / ____ Temporary Erosion Control Measures Installed
 ____ / ____ Gravel Drive/Entrance Installed
 ____ / ____ Land Cleared or Excavation Started
 Application submitted for plan review. Contractor (responsible party) to provide Section 4 information and construction schedule once contract has been awarded.
 ____ / ____ Final Grading/Seeding
 ____ / ____ Permanent Erosion Control Measures in Place
 ____ / ____ Temporary Erosion Control Measures Removed

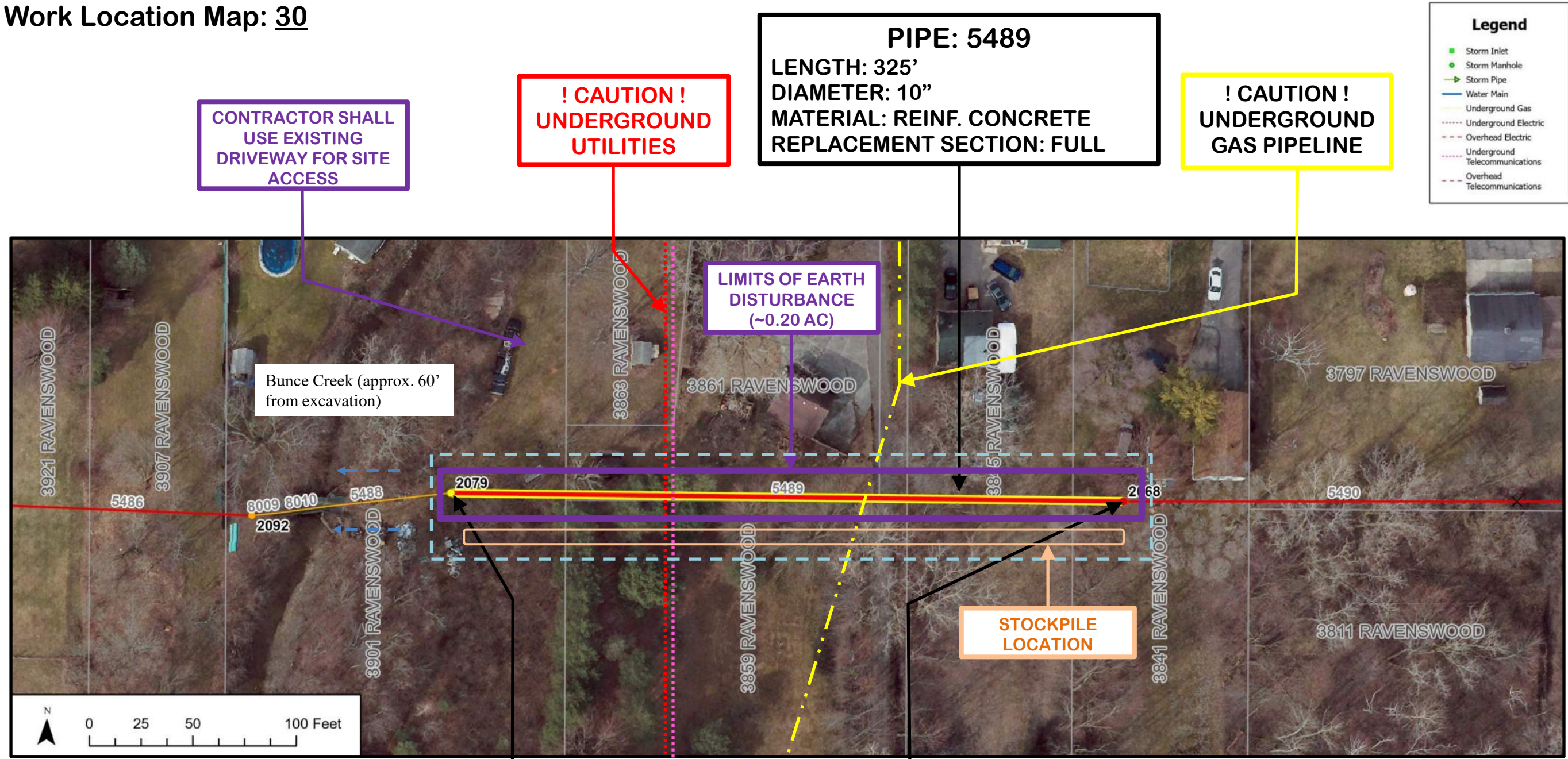
MAJOR PROJECTS

- ____ / ____ Temporary Erosion Control Measures Installed
 ____ / ____ Gravel Drive/Entrance Installed
 ____ / ____ Land Cleared or Excavation Started
 ____ / ____ Detention/Retention/Sediment Ponds Installed
 ____ / ____ Road Constructed
 ____ / ____ Utilities Installed
 ____ / ____ Final Grading/Seeding
 ____ / ____ Catch Basins/Ponds Cleaned
 ____ / ____ Permanent Erosion Control Measures in Place
 ____ / ____ Temporary Erosion Control Measures Removed

If your earth moving activity affects a County drain, contact your local drain office.
If your earth moving activity will occur in a wetland or flood plain, contact MDEQ.

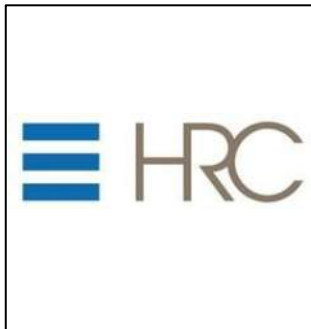
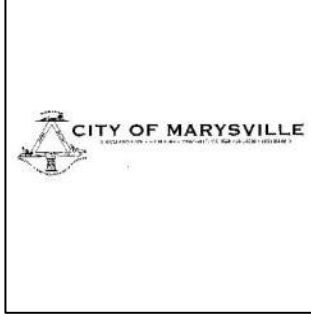
Y:\2020\10\20\100104_Design\01_Collector\Project_Docs\Open_Cut_Location\OpenCutDetailsReplacement_Details_01.pdf

Work Location Map: 30



Legend

- Storm Inlet
- Storm Manhole
- Storm Pipe
- Water Main
- Underground Gas
- Underground Electric
- Overhead Electric
- Underground Telecommunications
- Overhead Telecommunications



Sanitary Manholes Rehab

- No Rehab
- Rebuild Asphalt
- Rebuild Concrete
- Rebuild Grass
- See Detailed Rehab

Sanitary Pipes Rehab

- No Rehab
- Spot Repair Only
- Spot + Heavy Cleaning
- Pipe Rehab Only
- Spot + Pipe Rehab
- Pipe Replacement
- Parcels



- SEQUENCE OF CONSTRUCTION – SOIL EROSION CONTROL:**
1. INSTALL SOIL EROSION CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. COMPLETE PROPOSED WORK.
 3. COMPLETE SITE RESTORATION WITHIN TWO (2) WEEKS OF PROJECT SUBSTANTIAL COMPLETION.
 4. REMOVE SESC MEASURES AFTER ESTABLISHMENT OF RESTORATION.

811

THREE FULL WORKING DAYS BEFORE YOU DIG, CALL THE MISS DIG SYSTEM AT 800-482-7171 OR 811.

SESC LEGEND

- SILT FENCE
- LIMITS OF EARTH DISTURBANCE
- CATCH BASIN INSERT
- EXISTING SLOPE

NOTE: PRIOR TO CONSTRUCTION, THE LOCATIONS AND DEPTHS OF ALL UTILITIES IN CONFLICT WITH PROPOSED WORK SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

MH: 2079
RIM EL: 606.39'
RIM TO INV. DEPTH: 8.2'

MH: 2068
RIM EL: 606.88'
RIM TO INV. DEPTH WEST: 11.6'

- EROSION CONTROL STANDARD NOTES**
1. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE SESC STANDARD DETAIL SHEET.
 2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE CONTRACTOR.
 3. EROSION AND SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.
 4. THE CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS DIRECTED ON THESE PLANS AND WHERE OTHERWISE REQUIRED BY WORK. THE CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPE, DITCHES AND OTHER CHANGES HAVE BEEN ACCOMPLISHED.
 5. THE CONTRACTOR SHALL PRESERVE OFF-SITE NATURAL VEGETATION AS MUCH AS POSSIBLE.
 6. STABILIZATION OF ALL DISTURBED AREAS SHALL BE ESTABLISHED USING THE APPROPRIATE VEGETATION WITHIN FIVE (5) DAYS OF COMPLETION OF FINAL GRADING.
 7. THE CONTRACTOR SHALL SWEEP THE EXISTING STREETS SURROUNDING THE PROJECT SITE AS NEEDED.
 8. CONTRACTOR SHALL CLEAN SILT SACK SEDIMENT FILTERS AFTER EACH SIGNIFICANT RAINFALL EVENT OR EVERY TWO (2) WEEKS WHICHEVER IS MORE FREQUENT.
 9. ALL SOIL EROSION CONTROL MEASURES AS SHOWN ON THESE PLANS OR AS NEEDED TO COMPLETE THIS PROJECT WILL BE CONSIDERED INCIDENTAL TO THE ASSOCIATED OPEN CUT WORK ITEM, AND SHALL NOT BE PAID FOR SEPARATELY. ADDITIONAL SILT FENCE AND/OR OTHER SOIL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE PROJECT ENGINEER WHERE GRADES DICTATE AND A MINIMUM 25' VEGETATIVE BUFFER DOES NOT EXIST. THE COSTS FOR ANY ADDITIONAL SILT FENCE SHALL ALSO BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID ITEM FOR THE ASSOCIATED OPEN CUT WORK ITEM.
 10. SEDIMENT COLLECTED IN THE EXISTING DITCHES SHALL BE REMOVED AND DISPOSED OF PROPERLY IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS. CONTRACTOR TO RESTORE ALL DITCHES TO EXISTING CONDITIONS IN ACCORDANCE WITH RESTORATION NOTES.
 11. SILT FENCE TO BE PLACED AROUND SPOILS PILES AND WITHIN STAGING AREAS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROJECT.

USGS SOIL CLASSIFICATIONS	
SOIL TYPE	PERCENT OF CONSTRUCTION AREA
Allendale-Hoytville complex, 0 to 6 percent slopes	100%



City of Marysville
CWSRF Sanitary Sewer Improvements

Replacement Location #5: Pipe 5489

HRC Job No: 20201050
Date: December 2021

Scale: As Shown
Figure: Figure 5

Johnstone, Andrew K.

From: McNiff, Andrew <amcniff@stclaircounty.org>
Sent: Monday, March 14, 2022 3:45 PM
To: Johnstone, Andrew K.
Subject: RE: Range Road Open Cut
Attachments: Ditch-Section Restoration.pdf; Insurance Requirements.docx; ST. CLAIR CO. Rd. Surety Bond Form.doc

Follow Up Flag: Follow up
Flag Status: Flagged

Hey Andrew,

The plans for this project have been approved as submitted. The permit will be released upon receipt of a copy of the contractors insurance, a \$500.00 refundable inspection deposit, and a \$10,000.00 continuous surety bond held for 2 years. The permit fee has been waived for the City of Marysville. Also please attach a copy of the above ditch section restoration detail to the plans. Please let me know if you have any questions/ comments. Have a good day.

Andrew McNiff

Engineering, Permits

Mobile: (810)-305-0996

Office: (810)-364-5720

amcniff@stclaircounty.org

St. Clair County Road Commission



APPLICATION AND PERMIT
to construct, operate, maintain use and/or remove
within a County road right-of-way
BOARD OF COUNTY ROAD COMMISSIONERS OF
St. Clair County, Michigan
21 Airport Drive, St. Clair, MI 48079-1404
PH: (810) 364-5720
Fax: (810) 966-2548

CRA100

PERMIT NUMBER

ISSUANCE DATE:

If applicant hires a contractor to perform the work, **BOTH** must complete this form and **BOTH** assume responsibility for the provisions of this Application and Permit.

APPLICANT

NAME: _____

MAILING ADDRESS: _____

TELEPHONE: _____

APPLICANT SIGNATURE: X _____

TITLE: _____ DATE: _____

CONTRACTOR

NAME: _____

MAILING ADDRESS: _____

TELEPHONE #: _____

CONTRACTOR SIGNATURE: X _____

TITLE: _____ DATE: _____

(FOR OFFICE USE ONLY)
FINANCIAL REQUIREMENTS

PERMIT FEE: \$ _____

EST. INSPECTION FEE: \$ _____

BOND: \$ _____

DEPOSIT: \$ _____

LETTER OF CREDIT: \$ _____

TO BE BILLED: \$ _____

ATTACHMENTS REQUIRED

PLANS AND SPECS. (PLEASE CHECK IF APPLICABLE) ☐ PLANS

☐ SPECS

BOND NUMBER IF APPLICABLE: _____

PROOF OF INSURANCE: _____

OTHER: _____

APPLICATION

APPLICANT AND/OR CONTRACTOR REQUEST A PERMIT FOR THE PURPOSE INDICATED IN THE ATTACHED PLANS AND SPECIFICATIONS AT THE FOLLOWING LOCATION:

CITY: _____ TOWNSHIP: _____ SECTION: _____

ROAD NAME: _____ BETWEEN: _____ AND: _____

FOR A PERIOD BEGINNING: _____ AND ENDING: _____

AND AGREES TO THE TERMS OF THE PERMIT. DESCRIBE THE PROJECT IN THE SPACE PROVIDED BELOW.

PROJECT:

PERMIT

A PERMIT IS GRANTED IN ACCORDANCE WITH THE FOREGOING APPLICATION FOR THE PERIOD STATED ABOVE, SUBJECT TO THE FOLLOWING TERMS AGREED TO BY THE PERMIT HOLDER. *WHEN APPLICANT HIRES A CONTRACTOR, THE PERMIT HOLDER IS THE APPLICANT AND THE CONTRACTOR.*

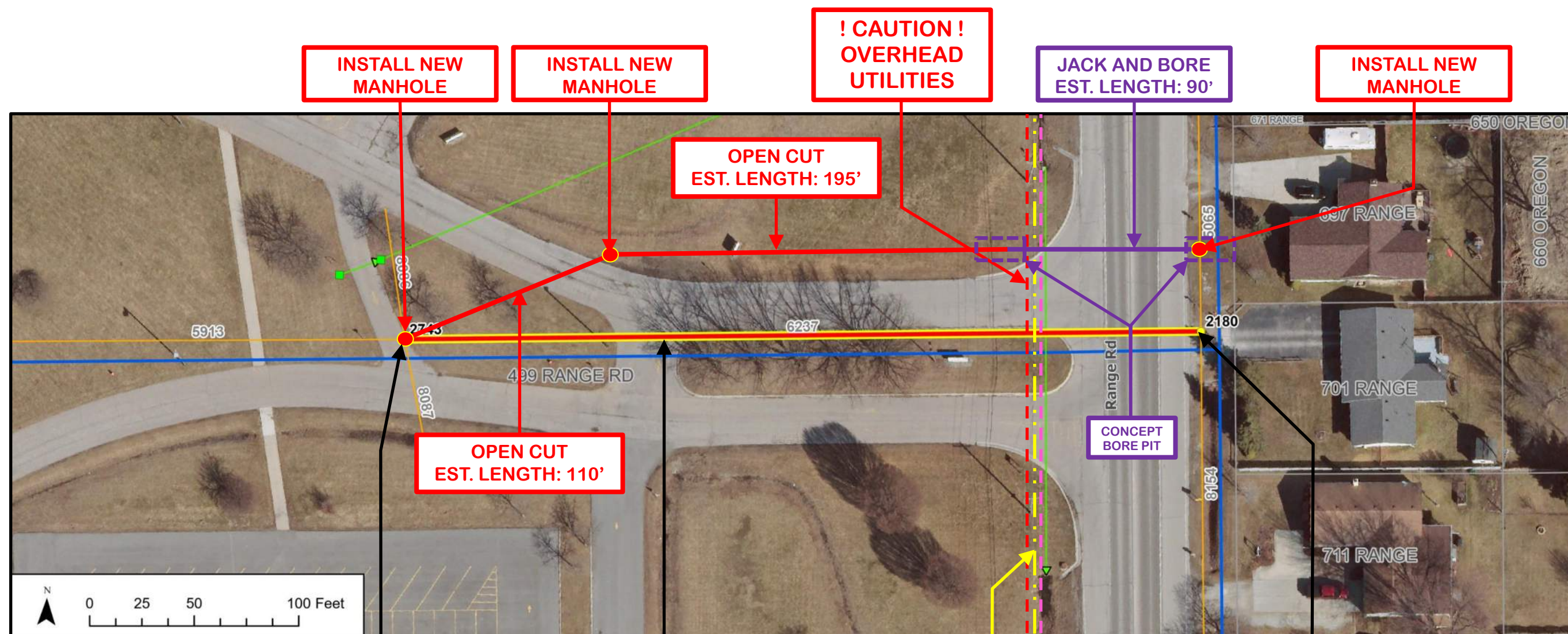
Recommended for Issuance: _____

Approved By: _____

Date: _____

BOARD OF COUNTY ROAD COMMISSIONERS
ST. CLAIR COUNTY, MICHIGAN

Work Location Map: 18



MH: 2743 (REMOVE)
RIM EL: 631.50'
RIM TO INV. DEPTH EAST: 9.8'

PIPE: 6237 (ABANDON)
LENGTH: 381'
DIAMETER: 8"
MATERIAL: TRUSS

**! CAUTION !
UNDERGROUND
GAS PIPELINE**

MH: 2180
RIM EL: 629.33'
RIM TO INV. DEPTH WEST: 9.85'

NOTE:
ALL WORK REQUIRED TO PERFORM THE REPAIR SHOWN SHALL BE INCLUDED IN THE LUMP SUM BID ITEM FOR REPLACEMENT LOCATION #10. QUANTITIES SHOWN ARE BEING PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE ALL WORK NECESSARY TO MAKE THE REPAIR AND SHALL INCLUDE ALL COSTS IN THE LUMP SUM BID ITEM.

CONTRACTOR TO CONDUCT JACK AND BORE WORK SUCH THAT PRIVATE PROPERTY IS NOT AFFECTED



THREE FULL WORKING DAYS
BEFORE YOU DIG, CALL THE
MISS DIG SYSTEM AT
800-482-7171 OR 811.

NOTE: PRIOR TO CONSTRUCTION, THE LOCATIONS AND DEPTHS OF ALL UTILITIES IN CONFLICT WITH PROPOSED WORK SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

Legend

- Storm Inlet
- Storm Manhole
- ▶ Storm Pipe
- Water Main
- Underground Gas
- Underground Electric
- - - Overhead Electric
- Underground Telecommunications
- - - Overhead Telecommunications

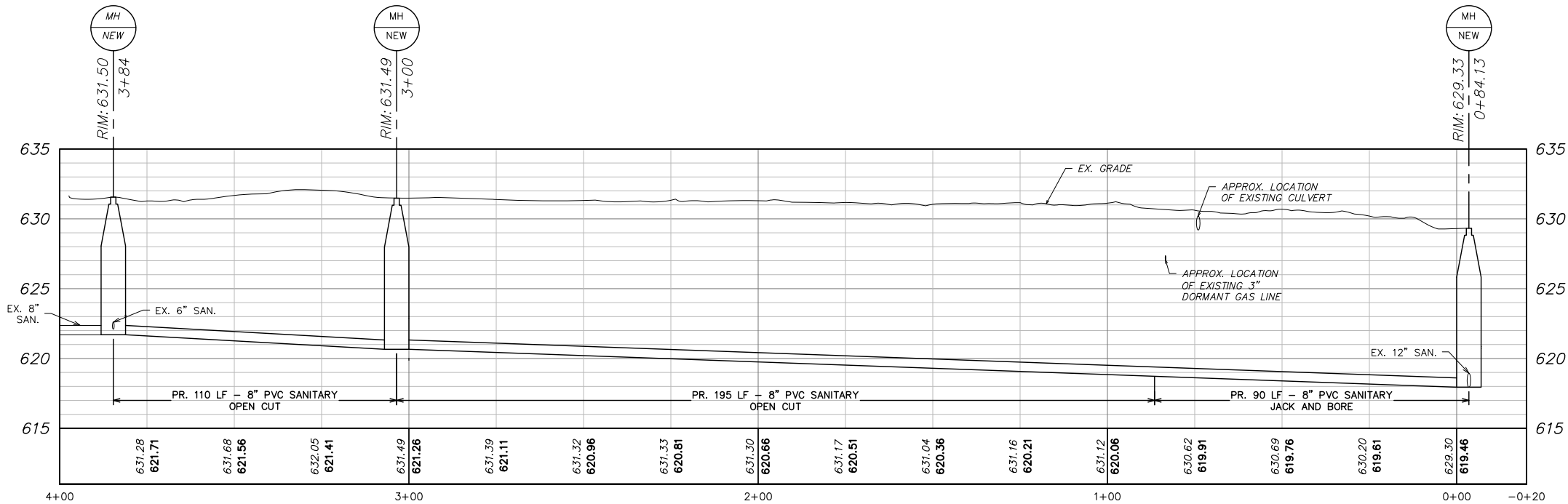
ITEM	UNIT	EST. QTY
Mobilization	LS	1
Audio-Video Route Survey	LS	1
Maintaining Traffic	LS	1
Exploratory Investigation and Utility Locating	LS	1
Tree, Rem 6 Inch to 18 Inch	EA	2
Pavt, Rem	SYD	90
Sanitary Sewer, Post-Construction, CCTV	LF	395
Sanitary Manhole, 0'-12' Depth	EA	3
Sanitary Sewer, 8" Dia, 0'-12' Depth	LF	305
Jack and Bore, Sanitary Sewer, 8" Dia.	LF	90
Abandon Existing Sanitary Sewer (bulkhead)	LS	1
HMA, MDOT 1300T	SYD	10
HMA, MDOT 1100L	TON	15
Aggregate Base, 21AA, 8 inch	TON	36
Sign Remove, Salvage, and Reinstall	EA	1
Site Restoration	LS	1

City of Marysville
CWSRF Sanitary Sewer
Improvements

Replacement
Location #10:
Pipe 6237

HRC Job No:	202
Date:	Febru

Scale:	As Shown
Figure:	Figure 10



REPLACEMENT LOCATION #10—PROFILE
SCALE: VERTICAL: 1"=5'-0"
HORIZONTAL 1"=20'-0"

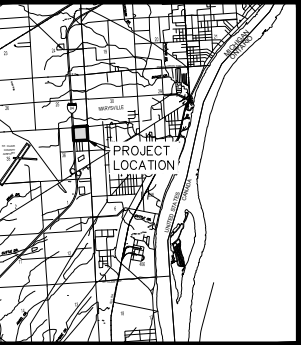
NOTE:
UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD.



HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915
555 HULET DRIVE P.O. BOX 824
BLOOMFIELD HILLS, MICH. 48303 - 0824
PHONE: (248) 454-6300
FAX (1st Floor): (248) 454-6312
FAX (2nd Floor): (248) 454-6359
WEB SITE: [http:// www.hrcengr.com](http://www.hrcengr.com)

DATE	ADDITIONS AND/OR REVISIONS
DESIGNED A.K.J	
DRAWN M.J.H	
CHECKED J.L.M	
APPROVED J.L.M	



CITY OF MARYSVILLE
**CWSRF SANITARY
SEWER
IMPROVEMENTS**

REPLACEMENT
LOCATION #10:
PIPE 6237—PROFILE

HRC JOB NO. 20201050	SCALE AS SHOWN
DATE February 2022	SHEET NO. OF

ST. CLAIR COUNTY ROAD COMMISSION INSURANCE REQUIREMENTS

Damage Liability and Insurance

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the St. Clair County Road Commission, its Commissioners, officers, directors, employees and agents from and against all claims, damages, losses, and expenses including, but not limited to, attorneys' fees, arising out of or resulting from the performance of this Contract including claims, damages, losses, and expenses attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, but only to the extent caused by the fault, negligent acts, or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by the parties indemnified hereunder. This obligation does not include an obligation to indemnify the parties indemnified hereunder for their sole negligence and shall not be construed to negate or modify other rights or obligations of indemnity that otherwise exist as to the parties or persons described herein.

The contractor shall, prior to execution of the contract, file with the Road Commission a certificate that they carry Worker's Compensation Insurance which the Contractor will keep in force for the duration of the contract.

The Contractor, prior to execution of the contract, shall file with the Road Commission copies of completed certificates of insurance, as evidence that they carry adequate insurance satisfactory to the Road Commission, to afford protection against all claims for damages to public or private property, and injuries to persons arising out of the work, and where specified in the proposal, similar insurance to protect the owner of premises on or near where construction operations are to be performed. **All insurance policies and certificates must name the St. Clair County Road Commission, its Commissioners, officers, directors, employees and agents as additional insured. A blanket additional insured endorsement must be attached (which may also include the Contractor's Xtend endorsement).** All insurance policies must also include an endorsement providing 30 days prior written notice to the Road Commission of cancellation, termination, nonrenewal or reduction of coverage. The Contractor shall cease operation on the occurrence of any such cancellation, termination, nonrenewal or reduction of coverage, and shall not resume operations until new insurance is in force.

General Liability

Unless otherwise specifically required by special provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily Injury and	\$1,000,000 Each Occurrence
Property Damage	\$1,000,000 Aggregate

Such insurance shall include, but not be limited to, coverage for: (a) underground damage to facilities due to drilling and excavating with mechanical equipment; and (b) collapses or structural injury to structures due to blasting or explosion, excavation, tunneling, pile driving, cofferdam work or building moving or demolition.

Owners Protective Liability

As an alternative to General Liability, you may provide Owner's Protective Liability. Bodily injury and property damage protection shall be extended to the Road Commission; and, where indicated by the identity of the contracting parties, the protection shall be extended to all participating political subdivision and political corporations.

Automobile Liability

Unless otherwise specifically required by special provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily Injury and Property Damage	\$1,000,000 per Accident
Michigan No-Fault -	Personal Injury Protection
	Property Protection Indemnity

ST. CLAIR COUNTY ROAD COMMISSION

BOND

KNOW ALL MEN BY THESE PRESENTS, That _____

as Principal, and _____

and _____

as Sureties, both of the County _____ and State of

Michigan, are held and firmly bound unto the County of _____, or its assigns, in the

Penal sum of \$10,000.00 Dollars, lawful money of the United States of America, for the payment of which, well and truly to be made to the said County of St. Clair, or it assigns, we bind ourselves, our heirs, executors and administrators, jointly and severally, firmly by these presents.

Sealed with our seals, and dated this _____ day of _____ A. D., 20_____, and shall be continuous until released by the Board of County Road Commissioners or as so stated.

WHEREAS, the above bounden _____ has made application to the Board of St. Clair County Road Commissioners for Highway Permits.

NOW, THEREFORE, If the above bounden principal shall so guard the work authorized by permit granted, and material for use during the progress thereof, that no injury, loss or damage, shall occur to persons or property, and shall save the County of St. Clair harmless from such injury, loss or damage, if any shall occur on account of not guarding the premises where work is being done, and shall also observe all ordinances of the County of St. Clair relating to safety, and the requirements of the Board of County Road Commissioners for the County of St. Clair, and shall comply with all articles set forth in the "Specifications and Conditions" for Highway Permits, and shall pay all bills rendered by said Board of County Road Commissioners for the repair or replacement of pavement or roadway where disturbed or displaced by such work, then this obligation to be void, otherwise of full force and virtue.

_____(Seal)

_____(Seal)

_____(Seal)

Address: Principal

Address: Surety Company

Bond #: _____

General Restoration Requirements:

All trees and shrubs must be removed within the limits of ditching on either side of culvert. All bare ground within the road right-of-way shall be restored with topsoil and grass. Stabilization is required for any bare soil areas to meet Michigan State soil erosion requirements. Slopes not stabilized will be rejected.

DITCHING & RESTORATION REQUIREMENTS:

Ditching Minimums:

3H:1V front slope minimum

2H:1V back slope minimum

2 foot ditch bottom

Shoulder material 23A limestone

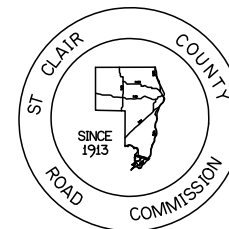
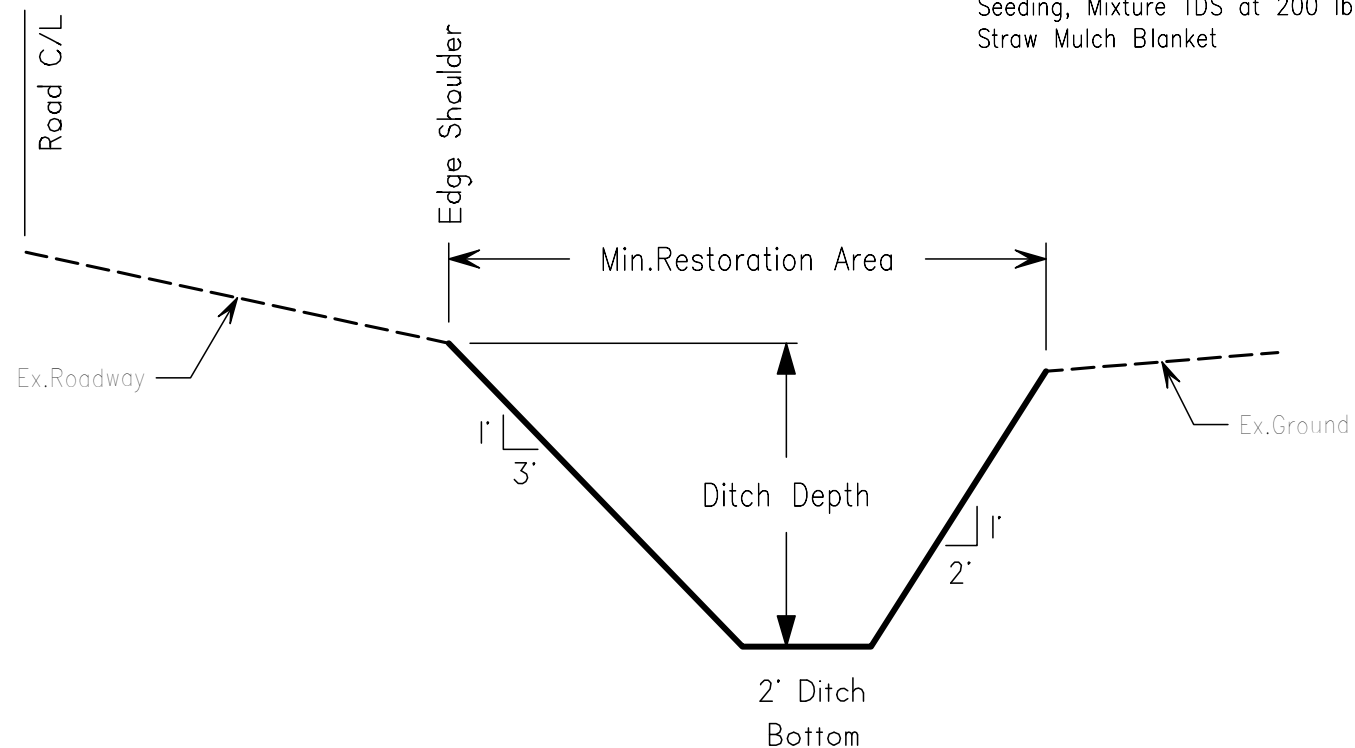
MDOT Turf Establishment spec 816

Top soil - 3" (three inches in depth)

Fertilizer, Chemical Nutrient, CI A at 220 lbs/ac

Seeding, Mixture TDS at 200 lbs/ac

Straw Mulch Blanket



ST. CLAIR COUNTY ROAD COMMISSION

Ditch Section Restoration

DATE: 5/15/2017



INDIVIDUAL CONSTRUCTION PERMIT
For Operations within State Highway Right-of-Way

Issued To:
City of Marysville

1255 Delaware Ave.
Marysville MI 48040-1566

Contact:
Barry Kreiner
810-455-1385(O) 810-650-3810(Cell)
bkreiner@cityofmarysvillemi.com

Secondary Contact:
Jennifer Morreale
248-535-3320(O)
jmorreale@hrcengr.com

Permit Number: 77031-083894-22-022822
Permit Type: Individual Application
Permit Fee:
Effective Date: Feb 28, 2022 to Feb 28, 2023
Bond Numbers:
Liability Insurance Expiration Date:

THIS PERMIT IS VALID ONLY FOR THE FOLLOWING PROPOSED OPERATIONS:

PURPOSE:

The CWSRF Sanitary Sewer Improvements project overall goal is to reduce infiltration and inflow in the City of Marysville Sanitary Sewer Collection System. The project will include various manhole and pipe rehabilitations along Gratiot Road (BL-94) and Busha Highway (M-29). See attachments for work locations.

STATE ROUTE: M-29 **CITY OF:** Marysville **COUNTY:** St. Clair County

NEAREST INTERSECTION:	SIDE OF ROAD:	DISTANCE TO NEAREST INTERSECTION:	(in feet)	DIRECTION TO NEAREST INTERSECTION:
Gratiot	W N	0.00		West

CONTROL SECTION:	MILE POINT FROM:	MILE POINT TO:	LOCATION:			
			LEFT	MEDIAN	RIGHT	TRANSVERSE
77031	0.000	0.000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

REQUISITION NUMBER: **WORK ORDER NUMBER:** **MDOT JOB NUMBER:** **ORG JOB NUMBER:**

77031-083894-22-022822 Issued To:City of Marysville

This permit is incomplete without "General Conditions and Supplemental Specifications"

I certify that I accept the following:

1. I am the legal owner of this property or facility, the owner's authorized representative, or have statutory authority to work within state highway Right-of-Way.
2. Commencement of work set forth in the permit application constitutes acceptance of the permit as issued.
3. Failure to object, **within ten (10) days** to the permit as issued constitutes acceptance of the permit as issued.
4. If this permit is accepted by either of the above methods, I will comply with the provisions of the permit.
5. I agree that Advance Notice for Permitted Activities for shall be submitted **5 days prior** to the commencement of the proposed work.

I agree that Advance Notice for Permitted Utility Tree Trimming and Tree Removal Activities shall be submitted **15 days prior** to the commencement of the proposed work for an annual permit.

CAUTION

**Work shall NOT begin until the Advance Notice has been approved.
Failure to submit the advance notice may result in a Stop Work Order.**

City of Marysville

Tom Anderson
MDOT

February 28, 2022
Approved Date

TSC Contact Info

Huron TSC

(810) 941-7819

THE STANDARD ATTACHMENTS, ATTACHMENTS AND SPECIAL CONDITIONS MARKED BELOW ARE A PART OF THIS PERMIT.

STANDARD ATTACHMENTS:

- 1 Special Conditions For Underground Construction (2205C)
- 2 Special Conditions For Private Utility-Type Facilities Transverse Crossings (2254)
- 3 Overview/Introduction of Trenchless Installation within MDOT ROW (3701)
- 4 Trenchless Installation Application Requirements (3702)
- 5 Special Conditions for Horizontal Directional Drilling (HDD) (3703A)
- 6 ENVIRONMENTAL REQUIREMENTS FOR ACTIVITIES WITHIN MDOT RIGHT-OF-WAY (2486)
- 7 General Conditions (General Conditions)

77031-083894-22-022822 Issued To:City of Marysville**ADDITIONAL ATTACHMENTS:**

- 1 DetourSheetsCombined.pdf
- 2 Plan Set of locations.pdf
- 3 Summary-Details-Traffic Control.pdf
- 4 MDOT_Typicals_Full.pdf
- 5 101-Gen-Spacing-Charts.pdf
- 6 102-Gen Notes.pdf
- 7 110-TR-NFW-2L (1).pdf
- 8 122-NFW-SHL-(R) (2).pdf
- 9 123-NFW-1LC-(R) Rt Lne Cl on 4-Lane Road.pdf
- 10 R028J Sidewalk Ramp and Detect Warning.pdf
- 11 R-29-H Concrete Sidewalk.pdf
- 12 R030G Concret Curb & Gutter.pdf
- 13 R-83-C Utility Trenches.pdf
- 14 0561 MDOT Lane Closure Notification-Request Form.pdf
- 15 137-CLT-Shift-OLC.pdf
- 16 Right Lane Closure on an Undivided Multi-Lane Roadway.pdf
- 17 R-44-F Concrete Pavement Repair.pdf

AMENDMENT ATTACHMENTS:**SPECIAL CONDITIONS:**

- 1 The Department of Transportation does not, by issuance of this permit, assume any liability claims or maintenance costs resulting from the City of Marysville facility placed by this permit. The Department reserves the right to require removal of all or any portion of this facility as needed for highway maintenance or construction purposes without replacement or reimbursement of any costs incurred by the permitted or other party. The permitted will defend, indemnify and hold harmless the Department for any claims whatsoever resulting from the construction or the removal of the authorized by this permit.
- 2 All disturbed areas within the right of way shall be top-soiled, seeded and mulched to match existing areas per current MDOT standards and specifications.
- 3 Submit an advanced notice in CPS 5-21 days prior to start of work. Saw cut pavement repair areas and place 18" of sand subbase, 6" aggregate base and matching existing concrete thickness.
- 4 Single lane closure is required when occupying lane as per 110-TR-NFW-2L(1).. Single lane closure is required when occupying lane as per 137-CLT-Shift-OLC. Single lane closure is required when occupying lane as per Right Lane Closure on Undivided Multi-Lane Roadway
- 5 Submit form 0561 MDOT Lane Closure Notification/Request Form a minimum of 5- business days prior to the start of requested closures and email to AndersonT26@michigan.gov and BeckmanE@michigan.gov

77031-083894-22-022822 Issued To:City of Marysville

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

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

SIGN NOTES

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

TRAFFIC REGULATOR NOTES

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

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

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

RAMP NOTES

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



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE:
MAY 2021

SHEET:

1 OF 2

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

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

MAINTENANCE AND SURVEYING NOTES

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



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE: MAY 2021

SHEET:

2 OF 2

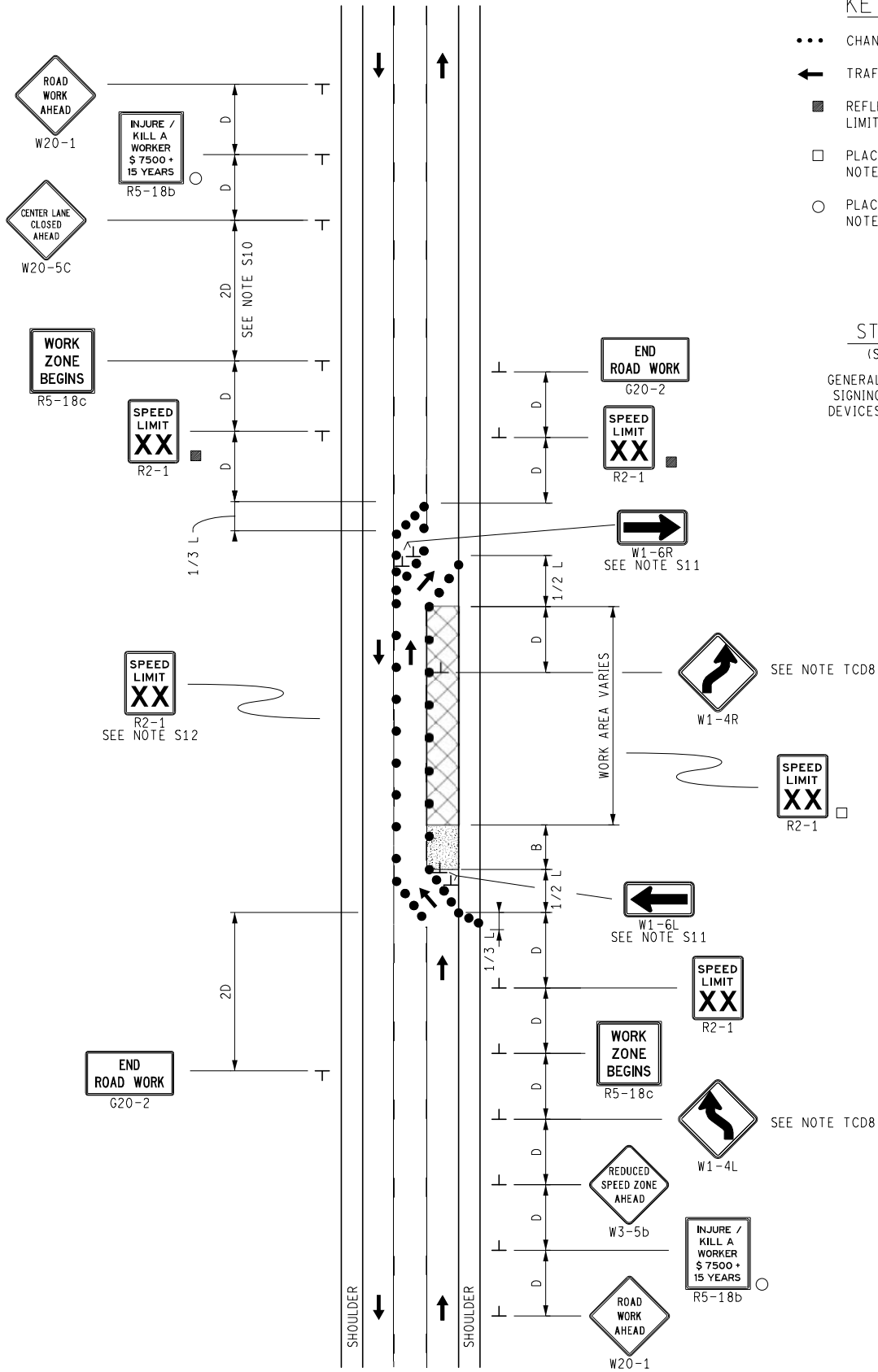
KEY

- ... CHANNELIZING DEVICES
- ← TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT
- PLACE SIGN AS INDICATED IN NOTE S5
- PLACE SIGN AS INDICATED IN NOTE S2

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4, G5
SIGNING: S1, S2, S3, S5, S10, S11, S12
DEVICES: TCD1, TCD2, TCD6, TCD8



MDOT LANE CLOSURE NOTIFICATION/REQUEST FORM

(FOR SHIFTS, LANE, SHOULDER, STRUCTURE AND RAMP CLOSURES)

TSC: _____
COUNTY: _____
JOB #: _____
PRIME CONTRACTOR: _____

DATE: _____
REQUEST #: _____
REQUESTOR NAME: _____
24 HR CONTACT: _____

ROUTE	DIRECTION	LOCATION OF CLOSURE (Cross St. to Cross St., M.P. to M.P., Exit name and Number)	WORK DESCRIPTION	DETOUR Y/N	EXISTING # LANES	CLOSURE TYPE (Place "X" in the boxes that apply)								DURATION OF CLOSURE and TYPE (Place "X" in the boxes that apply)					RESTRICTIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						LEFT SHLDR	LANE NUMBER				RIGHT SHLDR	RAMPS			DATE MM/DD	TIME	DAILY/ RECURRING	MOVING	HEIGHT	WEIGHT	WIDTH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
							1	2	3	4		ENTRANCE	EXIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</

DETOUR ROUTE	
SUMMARY	

Please submit for approval before 2 p.m. each Monday of the week a minimum of five (5) business days prior to the start of requested closures, by email to the Project Engineer for processing.

NOTE: SEMTOC shall be called in 'Real Time' when lane closures are beginning and when lane closures are removed in addition to providing advance notification on this Lane Closure Form. This includes shoulder closures and moving operations. Please notify SEMTOC and refer to the Main Job Number associated with the project.

SPECIAL CONDITIONS FOR UNDERGROUND CONSTRUCTION

The following special permit specifications shall apply when the permittee is excavating or performing any underground activity within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank:

1. In the event the permittee encounters environmental contamination and/or an underground storage tank in the right of way, the Michigan Department of Transportation (MDOT) shall be immediately notified. All Michigan Department of Natural Resources and Environment (MDNRE) and Federal Environmental Protection Agency (EPA) environmental requirements shall be complied with by the permittee. Unless the Department agrees in writing the following steps are to be taken:
 - a. The contaminated material that has been removed shall be temporarily stockpiled per MDNRE requirements. If stockpiled on the right of way, the site shall not interfere with MDOT operations or create a traffic safety problem. Also, the contaminated material shall be placed on plastic sheeting or tarp 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. At the end of each work day, the contaminated material shall be covered securely with plastic sheeting of 6 mil thickness or greater.
 - b. Upon completion of any testing deemed necessary by the Department or the MDNRE, the material shall be disposed of in an approved waste disposal site unless otherwise directed by the MDNRE.
 - c. In no case shall the contaminated material be stockpiled for longer than 45 days prior to disposal.
2. The permittee shall cooperate with MDOT personnel and pertinent regulatory agencies in resolving the contamination problem as required by law.
 - a. The manner in which the permittee manages and secures the site shall not interfere with the MDOT's interests.
 - b. The permittee shall not excavate as part of any site management operation within the one-on-one slope from the edge of shoulder without the permission of MDOT.
3. MDOT shall not indemnify or compensate the permittee for any costs or damages of any kind that the permittee incurs as the result of contamination encountered within the right of way. It is understood that the possibility of encountering contamination and the damages which might be incurred by the permittee because of the contamination are business risks the permittee assumes in choosing to locate and maintain facilities within the Right-of-Way.

The permittee is responsible for any costs that it incurs to secure the contaminated site in such a manner as to meet the requirements of the MDNRE and/or EPA and the requirements of MDOT.
4. The permittee, upon approval of MDOT, may continue to place its facility through the contaminated area providing remedial actions that meet the approval of MDOT and other enforcement agencies involved are followed.
 - a. All additional costs the permittee incurs, as a result of continuing to place its facilities within the contaminated area, are the responsibility of the permittee.
 - b. All contaminated material must be removed and properly disposed of as directed by MDOT and/or the MDNRE. All backfill material must be clean material, unless otherwise directed by the MDNRE. Excavation must be backfilled in a manner to prevent the creation of a pathway for migration of contamination off site.
5. The permittee is solely responsible to develop an alternate route for its facility in the event approval cannot be given to continue to place the facility within the contaminated area of the Right-of-Way. The permittee shall restore the original site as directed by MDOT.

This form must be signed and returned to the Region Office noted below.

**SPECIAL CONDITIONS FOR
PRIVATE UTILITY-TYPE FACILITIES
TRANSVERSE CROSSINGS and SPOT LOCATIONS**

1. The permittee shall defend, indemnify, and hold harmless the Department from any claims resulting from the construction or removal of the facility authorized by this permit, and from any claims for injuries to or death of any and all persons, for loss of or damage to property, from environmental damage degradation, response and cleanup costs resulting from the construction or presence of the facility authorized by this permit.
2. The Department shall not assume any liability claims or maintenance costs resulting from the facility placed by this permit. All such costs shall be borne by the permittee.
3. The Department reserves the right to require the permittee to remove all or any portion of the facility placed on trunkline right of way by this permit as needed for highway construction, operation, or maintenance purposes, or non-conformance with permit conditions by the permittee without replacement or reimbursement of any costs incurred by the permittee or any other party.
4. At the request of public utility companies, cable television companies or municipalities, the permittee shall locate and relocate, remove, or modify its facility to accommodate same at no cost to the Department or interference with the trunkline right of way and highway facility.
5. Any proposed revision in the design, construction, or use of the facility described shall receive prior approval by the Department.
6. The permittee shall maintain the facility placed on the trunkline right of way by this permit so as to assure that any highway facility, structures, and the area within the highway right of way boundaries will be kept in good condition. The safety, appearance and maintenance of the facility of the permittee shall be accomplished without causing interference with the reconstruction, maintenance or operation of the highway facility and right of way.
7. The permittee shall not store or allow the storage or discharge of any radioactive, toxic flammable, poisonous, explosive, or other dangerous, hazardous materials or waste on the said premises. The permittee shall not permit objectionable smoke, fumes, vapors, or odors to rise above the grade line of the highway.
8. The permittee shall furnish the Department with as-built drawings of the work performed within 30 days of the completion of the work.

APPLICANT SIGNATURE

DATE

REGION/TSC OFFICE

ADDRESS

ENVIRONMENTAL REQUIREMENTS FOR ACTIVITIES WITHIN MDOT RIGHT-OF-WAY

Issuance of a permit by MDOT does not relieve the permit applicant from meeting any and all requirements of law, or of other public bodies or agencies, including but not limited to the following:

1. Goemare-Anderson Wetland Protection Act, Part 303, P.A. 451 of 1994

Any activity that involves excavation or fill, located within a regulated wetland, requires a Michigan Department of Environmental Quality (MDEQ) permit. Regulated wetlands are those systems that are contiguous to a lake or stream (within 500 feet) or greater than five (5) acres in size.

2. Inland Lakes and Streams Act, Part 301, P.A. 451 of 1994

Any activity located within the ordinary high-water mark of a regulated body of water, i.e., lake, stream, drain, pond, etc., shall require a permit. There are no exemptions to this requirement. Permit applications and questions can be submitted to the MDEQ's Land and Water Management Division.

3. Soil Erosion and Sedimentation Control Act, Part 91, P.A. 451 1994

Any land disturbance of one (1) acre or greater, or that is located within 500 feet of a lake or stream, requires a soil erosion permit. Municipalities who are classified as an Authorized Public Agency (APA) are exempt from permits, but must follow proper soil erosion practices as identified in their standard plan. Any construction activity located within MDOT Right-of-Way that is authorized by a MDOT permit is the responsibility of the permit applicant and is not covered under MDOT's APA authority.

Soil erosion and sedimentation controls are required on all projects, even if a soil erosion permit is not required. Individuals performing work shall prevent sediment from entering any body of water or leaving the Right-of-Way. Permits can be obtained from the county/municipal agencies. Minor earth changes are exempted in this Act and are classified as normal maintenance and emergency repairs.

4. Clean Water Act: National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Requirements for Construction Activities

Any land disturbance of five (5) acres or greater requires an NPDES Storm Water Discharge Permit. This can include any filling, excavating, grading, clearing, etc. Municipally-owned utilities who service a population of less than 100,000 are exempt from permit provisions, but not from environmental protection requirements. Permit applications require the Part 31, P.A. 451 permit number, or a declaration of APA status and the effective date. Permit applications and questions can be submitted to the MDEQ's Surface Water Quality Division.

5. Environmental Site Closures

A procedure was developed by the MDEQ and MDOT which may allow a property owner, who is responsible for of these sites, to close an environmentally impacted site. Questions regarding this activity shall be addressed by contacting MDOT's Environmental Specialist at 517-335-2271.

6. The Land and Water Management Division of the MDEQ also administers the following environmental laws which may require review prior to construction:

- Sand Dune Protection Act, Part 353, P.A. 451 of 1994.
- Shore-lands Protection and Management, Part 323, P.A. 451 of 1994.
- Great Lakes Submerged Lands Act, Part 325, and P.A. 451 of 1994.

7. The Wildlife Division of the MDNR also administers the following environmental laws which may require review prior to construction:

- Endangered Species Act, Part 365, and P.A. 451 of 1994.

Questions regarding these permits may be addressed by contacting the nearest MDEQ district field office, or the MDEQ Land and Water Management Division at 517-373-1170.

Additional information is available in MDOT's Environmental Procedures Manual.

OVERVIEW AND INTRODUCTION OF TRENCHLESS INSTALLATION WITHIN MDOT RIGHT-OF -WAY

October, 2006

1 General Description of Trenchless Methods

1.1 Available Technologies

This document describes some of the popular trenchless technologies and how can inspectors, engineers, and contractors use these technologies correctly and avoid pavement damage. The methods discussed in this document include:

1. Horizontal Auger Boring (HAB)
2. Pipe Ramming
3. Pipe Jacking
4. Horizontal Directional Drilling (HDD)
5. Microtunneling
6. Pipe Bursting

The methods listed above are becoming more commonly used, particularly HDD, HAB and pipe bursting. However, it is important to include the appropriate MDOT central office and/or region staff specialists in the review process. This can help to ensure the proposed technique is appropriate for the soil conditions and location

1.2 Descriptions of Methods

Horizontal Auger Boring: A technique for forming a bore from a drive pit to a reception pit, by means of a rotating cutting head. Spoil is removed back to the drive shaft by helically wound auger flights rotating in a steel casing. The equipment may have limited steering capability. See Guided Horizontal Auger Boring (Figure 1.2.1).

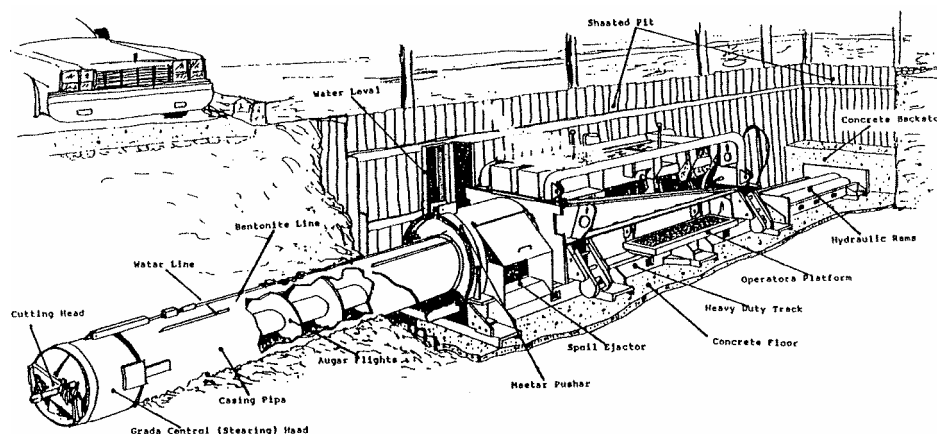


Figure 1.2.1 Horizontal Auger Boring

Pipe ramming: A technique for installing steel casing from a drive shaft to a reception shaft utilizing the dynamic energy from a percussion hammer attached to the end of the pipe. A continuous casing support is provided and over-excavation or water is not required. This is a 2-stage process (Figure 1.2.2).

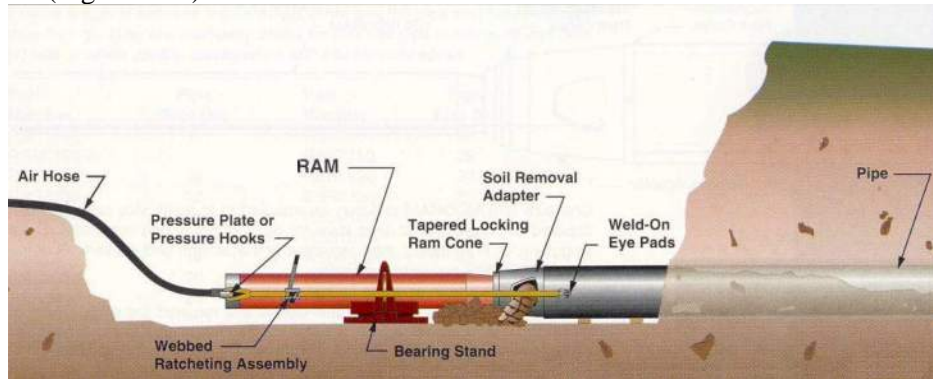


Figure 1.2.2 Pipe Ramming

Pipe jacking: A system of directly installing pipes behind a Shield Machine by hydraulic jacking from a Drive Shaft such that the pipes form a continuous string in the ground. Usually personnel are required inside the pipe to perform the excavation or spoil removal process. The excavation can be performed manually or mechanically (Figure 1.2.3).

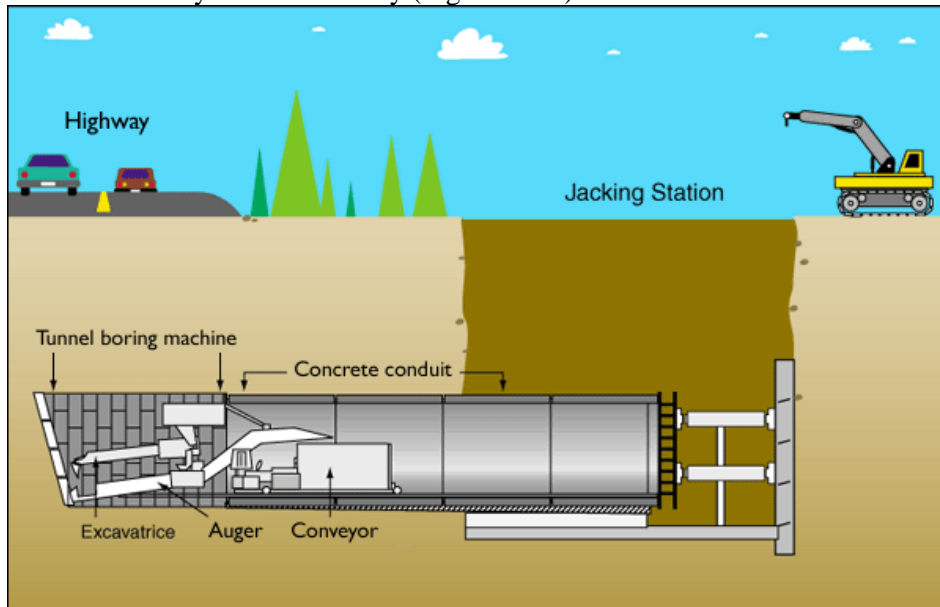
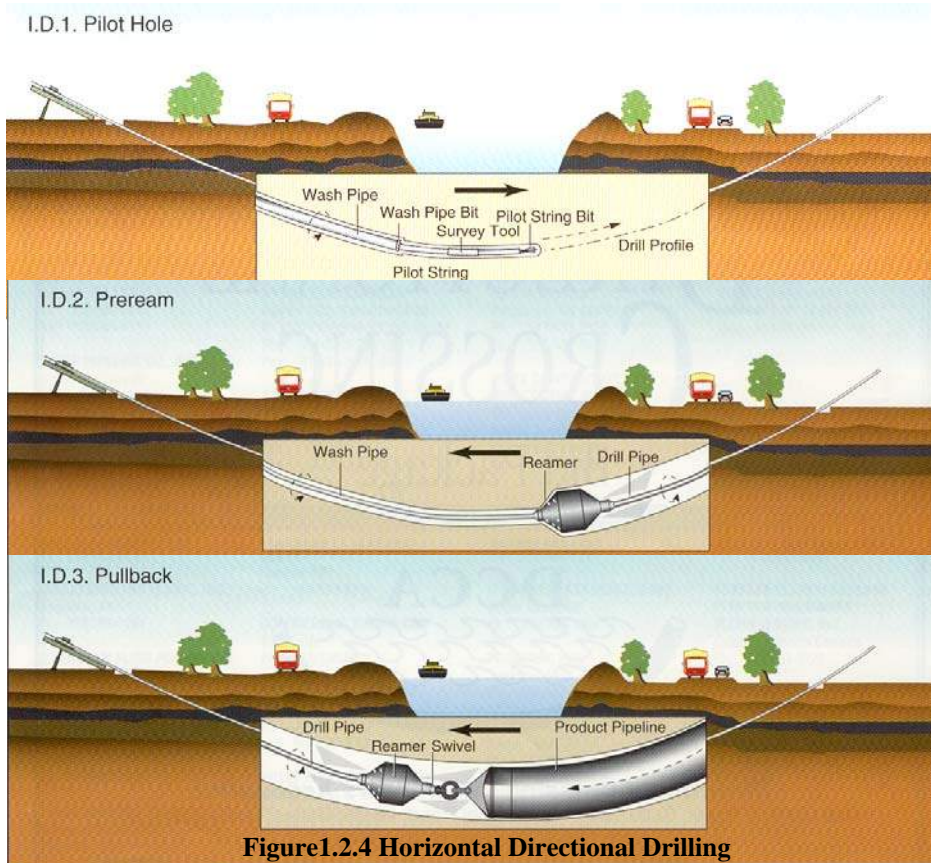


Figure 1.2.3 Pipe Jacking

Horizontal directional drilling: A steerable system for the installation of pipes, conduits, and cables in a shallow arc using a surface launched drilling rig. Traditionally HDD is applied to large scale crossings such as rivers in which a fluid filled pilot bore is drilled without rotating the drill string, and this is then enlarged by a wash over pipe and back reamer to the size required for the product pipe (Figure 1.2.4).



Microtunneling: A trenchless construction method for installing pipelines with the following features (Figure 1.2.5):

- Remote Controlled – The Micro Tunnel Boring Machine (MTBM) is operated from a control panel, normally located on the surface. It simultaneously installs pipe as spoil being excavated and removed.
- Guided – The guidance system usually refers to a laser beam projected onto a target in the MTBM, capable of installing gravity sewers or other types of pipeline to the required tolerance for line and grade.
- Jacking Pipe – The process of constructing a pipeline by consecutively pushing the MTBM through the ground using a jacking system.
- Face Support – Continuous pressure is provided to the face of the excavation to balance groundwater and earth pressure.

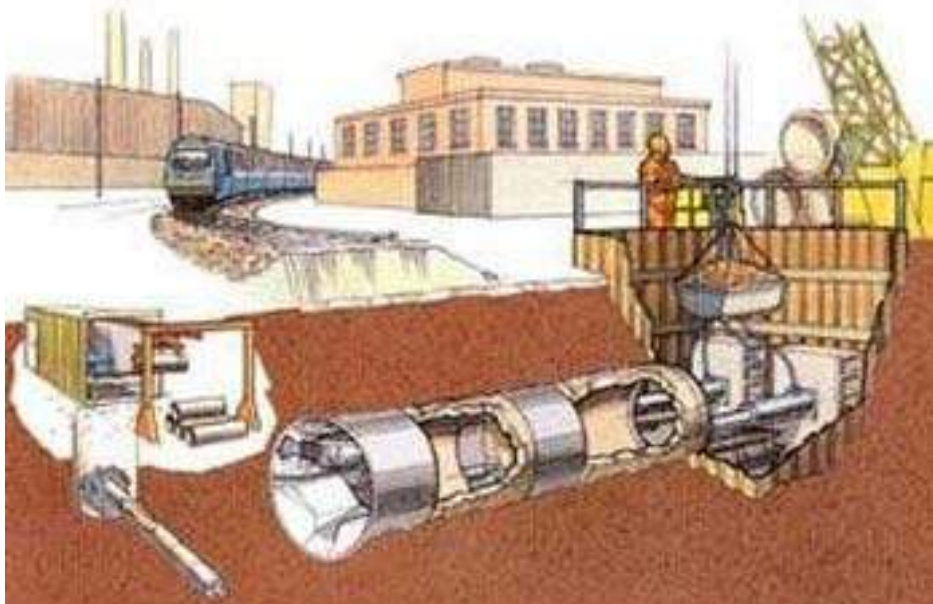


Figure 1.2.5 Microtunneling

Pipe bursting: A technique for breaking existing pipe by brittle fracture, using force from within, applied mechanically. Pipe remains are forced into the surrounding soil. At the same time a new pipe, of the same or larger diameter, is drawn behind the bursting tool (Figure 1.2.6).

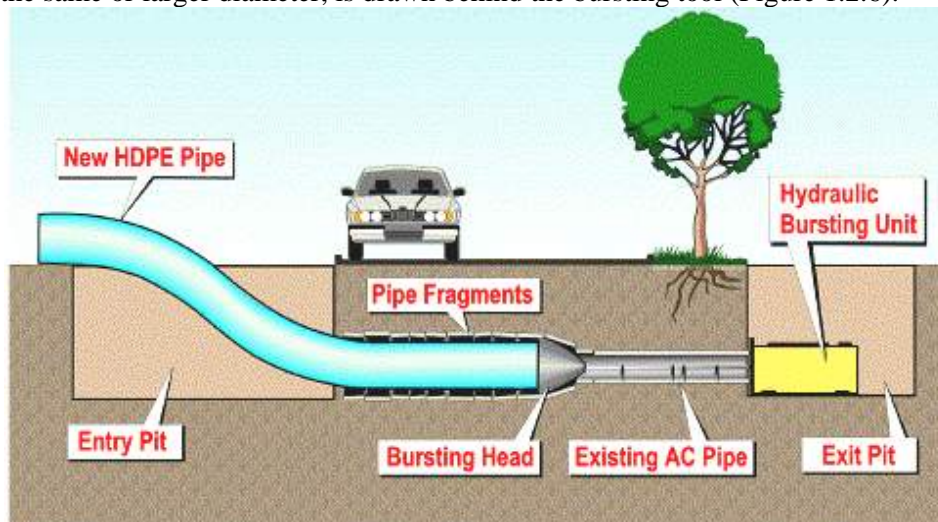


Figure 1.2.6 Pipe Bursting

1.3 Advantages and Limitations of Trenchless Technology

As technology advances, the ability to perform trenchless utility installation and maintenance will also advance, allowing a progressing greater proportion of such work to be completed without trenching through the pavement structure.

To this end, this document presents basic information about the methods, material, equipment, and applications available for use in trenchless utility construction, and provides insights into conditions and situations where trenchless applications would not be appropriate, thus requiring trenching operations. It should be recognized that there are many conditions where trenchless applications are not appropriate, such as emergencies, where immediate trenching of the pavement is necessary, and advanced planning simply cannot be done. In other cases, conditions such as the nature of the soils and rocks below the surface, or the presence and/or uncertain location of existing utilities preclude the use of trenchless technology.

2 Summary of Methods

This section provides a summary of information on all the methods described in the previous section. This section includes the following discussions:

- Selecting the appropriate methods based on type of construction and type of utility.
- Advantages and limitations of each method.

These sections are intended to provide additional information to help agencies and contractors to determine the most appropriate method of trenchless technology, or if trenching is indeed the most appropriate method of utility construction. This is not a complete catalog of methods and applications, and the reader should consult references and a trenchless technology contractor for a detailed analysis of a particular situation.

2.1 Appropriate Method for Utility Installation

This section provides information on the various trenchless methods and their applicability to the individual types of utilities and types of construction. The four major types of construction include:

- New installation
- Online replacement
- Renovation
- Repair and maintenance

These Additional Conditions have a focus on new installation methods, including six major applications: Horizontal Auger Boring, Pipe ramming, Pipe jacking, Horizontal directional drilling, Microtunneling, and Guided boring. Also, Pipe bursting in the category of online replacement is considered in order to fit the need of MDOT inspection practice.

The technique selected also depends on the type of utility, including:

- Water
- Sanitary and Storm Sewers

- Gas
- Electricity
- Telecommunications (including cable television)

The trenchless technology methods most suited for the construction and utility type are shown in the following table, which are limited by construction type: new installation (Table 4.1.1).

Table 2.1.1 Appropriate Techniques for Trenchless New Installation.

TECHNIQUE	Water	Sanitary and Storm Sewers	Gas	Electricity	Telecommunications
Horizontal Auger Boring	√		√	√	√
Pipe Ramming	√	√	√	√	√
Pipe Jacking		√			
Directional Drilling	√	√	√	√	√
Microtunneling		√			
Pipe Bursting	√	√	√		

Restriction on the construction method could include, among others, ground conditions, availability of trenchless technology contractors and equipment, cost, safety, and the technical feasibility of the various methods desired. The appropriate techniques in the preceding tables are only recommendations, and should not be taken as absolute.

Standard pipe sizes, bore lengths, and depths are also a consideration in determining the appropriate method. Table 4.1.2 provides an indication of the range of depth, length and diameter of the various methods.

Table 2.1.2 Range of Application for Trenchless New Installation

Method	Range of Application		
	Depth	Length	Diameter
Horizontal Auger Boring	≥4 ft	40-600 ft	8-60 in
Pipe Ramming	Minimum 1 ft/in diameter	40-200 ft	4-42 in
Pipe Jacking	Varies	No theoretical limit- 1600 ft	42-120 in
Maxi and Midi HDD	<160 ft	400-600 ft	3-54 in
Mini HDD	<50 ft	40-60 ft	2-14 in
Microtunneling	>60 in	80-1500 ft	10-120 in
Pipe Bursting	>30 in	300-400 ft	2-48 in

As described above, the range of application guidelines in the previous table should be used as a general guide in determining an appropriate method for trenchless construction. As technology improves within the various methods, each may expand its range of depth, length, and diameter application.

Select materials approved for installation within the right-of-way based on their suitability for the construction method as defined in Table 2.1.3.

Table 2.1.3 CHARACTERISTICS OF TRENCHLESS CONSTRUCTION METHODS

Type ¹	Pipe/Casing Installation Mode	Suitable ² Pipe/Casing	Soil Excavation Mode	Soil Removal Mode
HAB	Jacking	Steel	Mechanical	Augering
PR	Hammering/Driving	Steel	Mechanical	Augering, Hydraulic, Compressed Air, or Compaction
PJ	Pipe Jacking	Steel, GFRP	RCP, Manual Mechanical	Augers, Conveyors, Manual Carts, Power Carts, or Hydraulic
HDD	Pulling	Steel, HDPE	PVC, Mechanical and Hydraulic	Hydraulic, Mechanical Reaming and Compaction
MT	Jacking	Steel, GFRP, VCP, DIP	RCP, PCP, Mechanical	Augering or Hydraulic (Slurry)
PB	Pulling	(Steel, HDPE, MDPE ³) (Clay, Concrete RCP, PVC, DIP ⁴)	Clay, Plain Pipe, Steel, ACP,	Compaction

¹ HAB- Horizontal Horizontal Auger Boring; PR- Pipe Ramming; PJ- Pipe Jacking; HDD- Horizontal Directional Drilling; MT- Microtunneling; PB- Pipe Bursting

² Steel-Steel Casing Pipe, RCP- Reinforced Concrete Pipe, GFRP- Glass-Fiber Reinforced Plastic Pipe, PCP- Polymer Concrete Pipe, VCP- Vitrified Clay Pipe, DIP- Ductile Iron Pipe, PVC- Polyvinyl Chloride Pipe, HDPE- High Density Polyethylene Pipe, MDPE- Mid Density Polyethylene Pipe, ACP- Asbestos Cement Pipe

³ For new pipe of pipe bursting

⁴ For host pipe of pipe bursting, including all materials breakable practically

2.2 Advantages and Limitations of Methods

This section summarizes the advantages and limitations of the various trenchless technology applications. In general, all trenchless technology applications have the common advantage of reducing the impact to the surface, and to pavement structures. Although some city ordinances consider directional drilling or microtunneling to be a disruption to the pavement structure, the surface of the pavement is generally not impacted.

Other benefits include reduced impacts to traffic, and the other costs or impacts associated with traffic congestion. Although this section includes some reference to cost and safety, they are only

made as they relate to the advantages and limitations of the particular method. These will be discussed in more detail in later sections.

2.2.1 Horizontal Auger Boring

Horizontal Auger Boring has decreased risk of disrupting the surface either by subsidence or heaving, but an experienced operator is necessary to minimize the risk. Horizontal Auger Boring can be used in a wide range of soil conditions. Horizontal Auger Boring can be used to install any type of pipe or cable.

Horizontal Auger Boring is generally unsteerable, however some basic steering systems are available. It also requires entry and reception shafts. As with any trenchless technology application, a thorough site investigation is recommended, primarily to identify obstacles such as large boulders and soft ground. Horizontal Auger Boring can accommodate larger rocks, up to one-third the diameter of the casing. In Horizontal Auger Boring, the casing should be made of steel, to accommodate the steel augers turning inside the casing. Subsidence is a minor risk in Horizontal Auger Boring. There is a greater risk of heaving, however, in Horizontal Auger Boring if excessive force applied at the excavation face.

2.2.2 Pipe Ramming

Pipe ramming operation is generally much simpler to operate than other trenchless applications. Due in part to the simplicity of the methods, it is generally less expensive than other operations as well. Pipe ramming allows larger casings to be installed in a wide range of soil conditions. In open-faced pipe ramming, the casing is fully supported throughout the driving operation, does not present the risk of over excavation, and does not require fluid for the excavation.

Most state highway agencies do not consider pipe ramming in their Additional Conditions explicitly, but experience has found that many do not oppose the method. Operations in hard soils can be difficult, including the risk of deflecting the lead pipe off course due to large rocks, changing soil characteristics, or other obstructions. Rammed pipes have little to no steering control, and are used primarily for straight-line bores. Both types present the risk of damaging existing utilities, as do other methods of trenchless technology.

2.2.3 Pipe Jacking and Microtunneling

If used properly, both pipe jacking and microtunneling can have a low risk of surface disruption. Subsidence can be kept to about 1 in. Pipe jacking has been in use for over 100 years, thus providing a long history of success and much experience in the industry. Curved, steered bores are possible, although the radius of curvature depends on the equipment and the product materials.

As with most trenchless applications, pipe jacking and microtunneling require a skilled operator who can make adjustments based on almost imperceptible changes in the operation of the machines. Again, a thorough site investigation is essential to the success of the project. Access shafts are required at both ends of the drive. Soil characteristics can have a significant effect on the choice and application of pipe jacking systems, including the bore face excavation, which must be properly supported to prevent sudden collapse. Since the definition of pipe jacking compared to microtunneling is that workers are present in the jacked pipe, the safety of the operators is important. Pipe jacking systems require pipes that can transmit the jacking forces expected in the operation.

Typically the minimum depth of cover is 6 feet or 3 times outside diameter of installed pipe, whichever is greater. However, the actual depth of cover shall be determined by the applicant's design engineer and reviewed/approved by the MDOT Engineer/ Inspector.

In locations where the road surface is super elevated, the minimum depth of the bore shall be measured from the lowest side of the pavement surface.

2.2.4 Horizontal Directional Drilling

In general, the advantages of HDD are similar to those of the entire trenchless technology industry. HDD allows for rapid installation, and relatively large pipelines can be installed over long distances. HDD can be made accurately, and safety is greatly improved when used in conjunction with subsurface utility engineering. Line and level available is controllable. Mini-HDD equipment is portable, self-contained, and is designed to work in small, congested areas.

Limitations on HDD include the amount of space required to develop the underground access points. A relatively large area may be required for the drilling rig and associated equipment at the drill entry point. Another large area is generally required at the drill exit point, although surface-entry operations can reduce the need for access shafts. Other limitations include the possibility that the bore may collapse in some granular soils and gravels and lose its steering ability in soft soil. Ground movement must be considered, especially in midi- and maxi-HDD applications. The pressure and high flow rates of the drilling fluid can cause some excess soil to erode, which leaves a void outside the installed pipe, which may eventually collapse. Additionally, pressure may cause the drilling fluid to flow into a soil stratum as the drilling head advances, potentially causing heaving of that soil layer. Drilling fluid can also seep to the surface in shallow cover. Other limitations include excessive torque and thrust applied to the drill stem, especially in curving boreholes, which can cause drill stem failure in mini-HDD application.

2.2.5 Pipe Bursting

Advantages of pipe bursting for in-line pipe replacement include the fact that the alignment of the pipe is already established. This type of operation also provides the flexibility of maintaining or increasing the pipe capacity. Compared to open trench operations, the progress of pipe bursting can be much greater. Also, compared to other trenchless operations, there is less vibration, so damage or other impact to nearby services and structures is minimized.

A limitation of this type of operation is that with bursting of the pipe, and its expansion radically outward, existing utilities can be damaged, if they are not well-defined and located prior to commencing construction. Surface displacement can be extensive, especially in shallow applications, or in less compactable soils. Also, where unexpected conditions are encountered, such as unrecorded repair collars or adverse soil conditions, the operation may need to be stopped and excavation may be required to get past the obstruction. Another condition that generally requires additional excavation is negotiating sharp bends in the existing pipe. Additionally, excavations must be made to connect the new pipe to the existing service.

2.3 Methods not approved for Road Crossing

Thrust boring: In thrust boring, a borehole is formed by applying axial thrust to solid or closed-end push rods. This action causes local compression and displacement of soil into the surrounding soil at the front of the system. Primary characteristics of the method are that it produces no spoil and the push rods are not rotated or impacted. Thrust boring is nonsteerable.

Impact Moling: The use of a tool which comprises a percussive hammer within a suitable casing, generally of torpedo shape. The hammer may be pneumatic or hydraulic. The term is usually associated with non-steered devices without rigid attachment to the launch pit, relying upon the resistance (friction) of the ground for forward movement. During operation the soil is displaced, not removed. An unsupported bore may be formed in suitable ground, or a pipe drawn in, or pushed in, behind the impact moling tool. Cables may be drawn in. Impact moling is nonsteerable (Figure 2.3.1).



Figure 2.3.1 Impact moling

Wet/Slurry Boring: Wet boring is a technique that typically utilizes a small rotary drilling rig, a drill rod, and a drilling fluid. In a wet boring operation, a pneumatic- or hydraulic-operated drill rig simultaneously pushes and rotates hollow steel pipes through the soil from a launching pit. A cutting head or bit is attached to the lead end of the drill pipe. The drilling fluid is usually water or bentonite mud. The fluid is fed under pressure at a low rate- typically 5 to 15 gallons per minute- to the cutting bit. Spoil may be pushed back into adjacent soil if it is porous or compactable, or a mud slurry may return to the work pit through the annulus, where it is removed.

Water Jetting: A form of washing or wash boring the hole with low-pressure water, typically 60 to 100 psi in utility applications. Jetting or wash boring requires large volumes of water and is suitable only for soft materials, such as soils, loose sands, and soft clays. The erosion process of jetting often leaves irregular or washed-out hole sizes and may be difficult to control. Excessive soil erosion and overcutting issues are major problems of water jetting.

Blasting shall not be permitted under or on MDOT's right-of-way.

2.4 Potential Impacts on Pavements and Adjacent Utilities

Although trenchless technology methods of utility installation and maintenance generally impact the public and surrounding infrastructure to a lesser magnitude than utility cuts, there are some potential impacts that should be understood. Many of the trenchless methods described in these Additional Conditions have similar potential impacts, while others have unique impacts that should be considered when deciding on trenchless technology for a project:

- Bore hole collapse / subsidence.
- Access / reception pit excavation.
- Ground displacement / upheaval.
- Ground vibrations.
- Worker safety.

Loose, cohesion less, and granular soils are more susceptible to bore hole collapse if a casing is not placed immediately after excavation. Pipe jacking and Horizontal Auger Boring are most affected by this type of soil with respect to collapse or subsidence.

Pipe bursting can cause outward ground displacement along the pipe alignment. The displacement is typically localized, and their effects dissipate rapidly away from the bursting operation. Some causes for displacement or upheaval include:

- The pipe to be burst is shallow.
- The ground displacement is directed upwards.
- The new pipe diameter is significantly larger than that of the old pipe.

These displacements can also cause damage to nearby utilities if they are within two to three times the diameter of the new pipe.

Ground vibration can affect the surrounding soil and adjacent structures. This can be caused by pneumatic pipe bursting, as well as pipe ramming.

APPLICATION REQUIREMENTS FOR TRENCHLESS INSTALLATIONS

Each permit applicant shall review and adhere to the applicable Special Condition(s) (Forms 3703 A through F) for a proposed trenchless installation, and shall submit the following documentation (as needed) with an individual permit application package. All plans submitted shall be sealed by a Professional Engineer who is licensed in the State of Michigan and is competent in geotechnical and structural engineering. The plans shall be drawn to scale and shall indicate the following information whenever any pipe or borehole involves temporary works or bore pits, and whenever a utility will be installed by using a horizontal directional drill that is 8 inches or greater.

An annual permit package *may* be used to allow for a trenchless installation of a utility conduit, that has a borehole diameter of less than 3 inches – without submitting the required information listed below.

1. Plan views shall be drawn to scale, include the following information, and indicate the locations of the following items, that are located within the project's influence area – with dimensioned distances, as indicated:

- North arrow, road alignment and nearest crossroad – dimensioned from the installation.
- MDOT Right-of-Way boundaries - dimensioned from the roadway centerline.
- Existing MDOT facilities; sidewalks, roadways, signals, poles, buildings, private or public utilities, drainage structures, bridge structures, ITS facilities, waterways, and all other facilities that *may* be affected or influenced by the underground installation.
- All utility facilities – including separation requirements.
- Casing and/or carrier pipe – including installation length, invert elevation, size, and material type.
- Installation area – including ingress and egress locations, pipe/borehole layout, and installation method.
- Soil borings and access pits -including length, width, depth, and, offset distances from roadway/curb.
- Work areas – including earth retention, equipment staging, and material storage.
- Dewatering areas and layouts – accompanied with an operational plan.
- Proposed vertical exploratory investigations – including the method.
- Potential bore failure contingency plan.

2. Profile views shall be drawn to scale, include the following information, and indicate the locations of the following items, that are located within the project's influence area – with dimensioned distances, as indicated:

- MDOT right-of way boundaries.
- All subsurface facilities or utilities located above or below the centerline of the pipe/borehole – including the required separation between utility facilities.
- Pipe/borehole depth, diameter, invert elevation, length, cover, and grade of the – dimensioned from the curb and gutter, shoulders, roadway surface, and ground surface.
- Access pits and earth retention system – including width, depth, and offset distance from roadway/curb.
- Water table elevation.
- MDOT Form PA-10 *may* be acceptable.

3. The following additional geotechnical information is required whenever a proposed trenchless utility installation crosses a road and has a borehole – diameter of 12 inches or larger:

- Borings shall be offset from the proposed pipeline path, but shall not exceed a maximum of 10 feet away from the proposed installation alignment.
 - At least two soil borings are required for single roadways – one on each side of the road.
 - At least three soil borings are required for divided roadways – one on each side of the road, and one in the median.
 - For interchanges or other unique roadway layouts, contact the local Transportation Service Center (TSC) permit staff to determine the appropriate soil boring requirements.

- Standard Penetration Testing shall be conducted at 2.5 foot intervals for the entire depth explored.
- Sample and test the soil as necessary to accurately define properties including, but not limited to, moisture content and shear strength of cohesive soils.
- Groundwater measurements shall be recorded during and after drilling the soil borings. The installation of temporary ground water monitoring wells *may* also be required.
- Soil boring locations shall be identified by station and offset and referenced to a bench mark of known elevation. Assumed elevations are not acceptable. Stationing and offset distances can be aligned parallel with either the roadway or the proposed trenchless installation.
- Soil borings shall extend at least 10 feet below the bottom of the proposed trenchless bore elevation.
- Upon completion, soil boring holes shall be grouted and sealed with cement and bentonite. Soil cuttings for backfill is not acceptable.
- Soil reports shall be completed by a qualified, registered geotechnical engineer that has experience with trenchless installations. The geotechnical engineer shall possess a minimum of 5 years of current qualifying experience. The report shall include recommendations for the appropriate trenchless method for crossing the road, based upon the subsurface conditions revealed at the site. The geotechnical report shall contain all subsurface information, including; field and laboratory test results, soil descriptions, ground water levels observed during and after drilling, potential presence of cobble(s), and boulder(s), and an assessment of how the existing subsurface conditions may affect the successful completion of the trenchless crossing.
- An aerial photograph of the site shall completely encompass where; road alignment, nearest crossroad, MDOT Right-of-Way boundaries, existing MDOT facilities, utility facilities, proposed installation areas, proposed trenchless alignment, soil borings, work areas, dewatering areas, proposed vertical exploratory investigations, and potential bore failure contingency plans exist.

4. The following additional specifications and/or documentation *may* be required – depending upon a project’s complexity and the proposed trenchless installation method:

- Qualifications and contact information of the project superintendent and operator(s).
- Utility status report that certifies all private and public utility company facilities, located within the area of influence of the project, were consulted and that each utility’s location, bearing, invert elevation, grade, depth, and diameter is accurately represented on the plans and profiles.
- Geotechnical information including soil reports, and soil boring information.
- Casing and/or carrier pipe information including; material type, material class, yield strength, allowable pipe pulling or jacking force, diameter and wall thickness.
- Overcut diameter, and/or back-ream diameter increase.
- Casing blocking, chocks or spacer material.
- Bulkhead construction.
- Annulus flowable-fill requirements.
- Pre-existing condition survey – including photographs, video and ground/roadway surface elevations.
- Plan for corrective action – including contact information for a ground penetrating radar (GPR). locating company and a grouting contractor that will be “on-call” during the crossing operations
- Pipe material certifications.
- Pipe joining method, including joint gasket and/or cushion details.
- Leak test methods and certification.
- Ground movement monitoring methodology.
- Continuous monitoring records information.
- Construction staging.
- Make, model, and operational characteristics of the trenchless equipment.
- Grade and alignment control system.
- Lubrication system and method.
- Grouting or capping method.
- Control, treatment, and disposal of slurry water and soil cuttings.
- Temporary pipe bypass layout and pump capacity.
- Dewatering operation plan.

GENERAL CONDITIONS

This permit is issued subject to the following General Conditions:

1. This permit grants to the permittee only those rights specifically stated and no other. Maintenance work within the trunkline right of way may require a separate permit unless authorized within the scope of the annual permit.
2. Issuance of this permit does not relieve permittee from meeting any and all requirements of law, or of other public bodies or agencies. The permittee shall be responsible for securing including but not limited to any other permissions including or required by law including but not limited to cities, villages, townships, corporations, or individuals for the activities hereby permitted.
3. The permittee agrees as a General Condition of this permit to:
 - a. Have in the permittee's or the permittee's representative's possession on the job site at all times the approved permit, advanced notice and any necessary plans or sketches.
 - b. Submit Advance Notice through the online Construction Permit System (CPS) at least five (5) working days prior to commencement of any operations covered by this permit. No work shall start until an approved Advance Notice is e-mailed to the permittee.
 - c. Perform no work except emergency work, unless authorized by the Department (Michigan Department of Transportation [MDOT]), on Saturdays, Sundays, or from 3:00 p.m. on the day proceeding until the normal starting time the day after the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
 - d. Perform no work except emergency work during periods of inclement weather when reduced visibility or slippery conditions impair trunkline traffic.
 - e. Provide and maintain all necessary precautions to prevent injury or damage to persons and property from operations covered by this permit.
 - f. Furnish, install and maintain all necessary traffic controls and protection during permittee's operations in accordance with the Michigan Manual of Uniform Traffic Control Devices and any supplemental specifications set forth herein.
 - g. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days will require the removal of lane closures at no expense to the Department.
 - h. Notify the Department of completion of work authorized by this permit through CPS, so that final inspection may be made and surety deposit released (where applicable). Surety deposit will not be released until the work authorized by the permit has been completed and inspected, and all inspection charges billable to the permittee are paid.
4. Nothing in this permit shall be construed to grant any rights whatsoever to any public utilities, except as to the consent herein specifically given, nor to impair any existing rights granted in accordance with the constitution or laws of this state.
5. Any operations in the trunkline right of way not covered by permit and the appropriate Department specifications are in violation of the jurisdictional authority of the Department, with respect to the control of the trunkline right of way, unless approved by the Department. Any change or alteration in the permit activities requires prior approval of the Department and may require a new permit.
6. Performance of the requirements of this permit is the responsibility of the permittee. The permittee shall complete all operations for which this permit is issued in accordance with the General Conditions and conditions of this permit, by the specified completion date. The permittee shall meet all requirements of the current Department Standard Specifications for Construction, and the Supplemental Specifications set forth on/or incorporated as a part of this permit.
7. The construction, operation and maintenance of the facility covered by this permit shall be performed without cost to the Department unless specified herein. The permittee shall be responsible for the cost of restoration of the state trunkline and right of way determined by the Department to be damaged as a result of the activities of the permittee.
8. Facilities allowed on state trunkline right of way shall be placed and maintained in a manner which will not impair the state trunkline or interfere with the reasonable safe and free flow of traffic. Failure of the permittee to maintain the facilities located within the State trunkline right of way so as not to interfere with the operation, maintenance or use of the state trunkline by the traveling public may result in revocation of the permit.
9. The permittee is solely and fully responsible for all activities undertaken pursuant to the permit. Any and all actions by the Department and those governmental bodies performing permit activities for the Department pursuant to a maintenance contract, including but not limited to any approved reviews and inspections of any nature, permit issuing, and final acceptance or rejection of the work or activity authorized by the permit shall not be construed as a warranty or assumption of liability on the part of the Department or those governmental bodies. It is expressly understood and agreed that any such actions are for the sole and exclusive purposes of the Department and the governmental bodies acting in a governmental capacity. Any such actions by the Department and governmental bodies will not relieve the permittee of its obligations hereunder, nor are such actions by the Department and the governmental bodies to be construed as a warranty as to the propriety of the permittee's performance.

Note: The following General Condition does not apply to municipalities with executed resolutions on file with MDOT.

The permittee shall indemnify, defend, and save harmless the State of Michigan, Michigan Transportation Commission, the Department and all officers, agents and employees thereof, and those governmental bodies performing permit activities for the Department and all officers, agents and employees thereof, pursuant to a maintenance contract, against any and all claims for damages arising from operations covered by this permit except claims resulting from the sole negligence or willful acts or omissions of said indemnities, its agent, or employees. In addition, permittee upon request shall furnish proof of insurance coverage for the term of this permit in an amount pre-specified.
10. The permittee or representative must ensure that all insurance policies and binders include an endorsement by which the insurer

agrees to notify the Department in writing at least 30 days before there is a cancellation or material change in coverage. The permittee or representative must stop operations if any insurance is cancelled or reduced and must not resume operations until new insurance is in force. The State of Michigan, Michigan Transportation Commission, Department of Transportation, and governmental bodies performing permit activities under a maintenance contract, and all officers, agents, and employees of all the above, for claims arising out of, under, or by reason of operations covered by the permits issued to the permittee.

11. This permit is not assignable and not transferable unless specifically agreed to by the Department.
12. The permittee, upon request of the Department, shall immediately remove, cease operations, and surrender this permit, or alter or relocate, at the permittee's own expense, the facility for which this permit is granted. Upon failure to do so, the Department may take any necessary action to protect the trunkline interest and the permittee shall reimburse the Department for its costs in doing same. The permittee expressly waives any right to claim damages or compensation in the event this permit is revoked.
13. The permittee shall, upon request by the Department, furnish a performance surety deposit in the form of a bond, cash, certified check, or (when authorized by the Department) an irrevocable letter of credit in such amount as deemed necessary by the Department to guarantee restoration of the trunkline highway or performance under the General Conditions and conditions of the permit.
14. The permittee hereby acknowledges and agrees that the Department has the right to demand completion by the permittee, or the performance surety, or to complete any uncompleted activity authorized by this permit which adversely affects the operation and/or maintenance of the state trunkline highway, or which is not completed by the expiration date of the permit, including:
 - a. Completion of construction of driveway and/or approach (not authorized by annual permit).
 - b. Removal of materials.
 - c. Restoration of the trunkline facilities and right of way as necessary for the reasonably safe and efficient operations of the trunkline highway.

The permittee further agrees to immediately reimburse the Department in full for all such costs incurred by the Department upon receipt of billing, and that upon failure to pay, the Department may affect payment with the performance surety deposit. Should the surety deposit be insufficient to cover expenses incurred by the Department, the permittee shall pay such deficiency upon billing by the Department. If the surety deposit exceeds the expense incurred by the Department, any excess will be returned or released to the depositor upon completion of the work to the satisfaction of the Department.

15. The Department reserves the right during the time any or all of the work is being performed to assign an inspector to protect the trunkline interest, and to charge the permittee all such costs incurred. In addition, the permittee may be billed any engineering and review fees incurred by the Department or its agent in connection with the work covered by this permit.
16. Emergency Operations: In time of disaster or emergency, or when utility lines or facilities are so damaged as to constitute a danger to life and/or property of the public, access to the same may be had by the most expeditious route. Work is to be completed in a manner which will provide the traveling public with maximum possible safety and minimize traffic distribution. Notice of such situations shall be given to the nearest police authority and the department as soon as can reasonably be done under the

circumstances. During normal Department work hours, the facility owner shall advise the Department of any operations within right of way which affect traffic operations or the highway structure or facilities prior to performance of the work. After normal Department work hours, the permittee, at the beginning of the first working day after the emergency operation, shall advise the Department of any operations which affect traffic operations or the highway structures and facilities. If determined necessary by the Department, the permittee shall secure an individual permit for such work after notification.

17. Upon the Department's request, as built drawings of work performed will be furnished to the Department within 30 days after completion of the work.
18. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.
19. The permittee acknowledges that the Department is without liability for the presence of the permittee's facility which is located within the trunkline right of way. Acceptance by the Department of work performed, and/or notice of termination of performance obligations for the surety and/or the permittee do not relieve the permittee of full responsibility for the permittee's work or for the presence of the permittee's facility in the trunkline right of way.
20. Where the Department has accepted an Indemnification Commitment in lieu of bond and/or insurance policies, such commitment is incorporated into this permit by reference.
21. It is illegal to discharge substances other than storm water into the Department's storm sewer system unless permission has been obtained in writing for other discharges.
22. The permittee shall be responsible for obtaining information on permitted environmental site closures within MDOT right of way. MDOT has implemented a program that allows environmental contamination to remain within the right of way by use of a permit. Issued permit information can be obtained from the Region/TSC in which the permit is issued. If the permittee will encounter a site area identified as a site closure permit area, the permittee shall follow instructions and conditions set forth in Supplemental Specifications #3 and specifications found in form 2205-C, "Special Conditions for Underground Construction".
23. Other than for normal daily vehicle and equipment usage requirements, the permittee shall not use or store unattended equipment, or the following types of hazardous materials on, over, under, or immediately adjacent to Department or Local Agency owned buildings, bridges and structures, unless expressly approved by the Department in writing;

Explosive, flammable gas, non-flammable gas, inhalation hazard, oxygen, flammable liquids, fuel oil, combustible, gasoline, flammable solids, spontaneously combustible, dangerous-when-wet, oxidizer organic peroxide, toxic, poisonous, inhalation hazard, infectious, radioactive, corrosive, or any other potentially hazardous material.

Furthermore, the permittee shall not allow hazardous or unreasonably objectionable smoke, fumes, vapor, or odors to emit from any permitted operation. No junk, garbage, refuse or unused construction materials shall be stored or accumulated within the MDOT Right-of-Way.

24. It is the responsibility of the utility owner to provide the depth and location of their facilities within MDOT ROW upon the department's request.

SUPPLEMENTAL SPECIFICATIONS

1. Construction and Maintenance of Facilities – To construct and maintain utility crossings of limited access highways, access for the utility's service vehicles may be from county roads, service roads, and openings authorized in limited access right of way fences. The construction of utilities across limited access highways should be for the purpose of serving a general area rather than providing individual services, unless extenuating circumstances necessitate such crossings.

Equipment, vehicles or personnel will not operate within a distance of 30 feet from the edge of the pavement of roadways or ramps on limited access highways. At locations where utilities have been constructed in medians having a width greater than 80 feet or have otherwise been allowed to remain or to be constructed in limited access right of way, ingress and egress shall be by such routes as specified by the Department, which may also specify additional safety provisions.

2. Restoration- Restoration of the trunkline highway and right of way will be such that it will provide a condition equal to or better than the original condition, in accordance with Michigan Department of Transportation Standard Specifications.
3. Excavation and Disposal of Excavated Material – The permittee shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The permittee shall assume the full responsibility for this protection and shall not proceed in these areas before approval of the methods by the Department.

Construction equipment and excavating material shall not be stocked in such locations that it creates a traffic hazard or interferes with the flow of traffic; and on limited access highways, shall be a minimum of 30 feet from the traveled way. Sod and topsoil shall be stacked separately from other excavated material. The permittee shall dispose of all surplus and unsuitable material outside of the limits of the highway, unless the permit provides for disposal at approved locations within right of way. In the latter case, the material shall be leveled and trimmed in an approved manner.

When the permittee is excavating within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank, special permit specifications entitled "Special Conditions for Underground Construction" (Form 2205-C) shall apply.

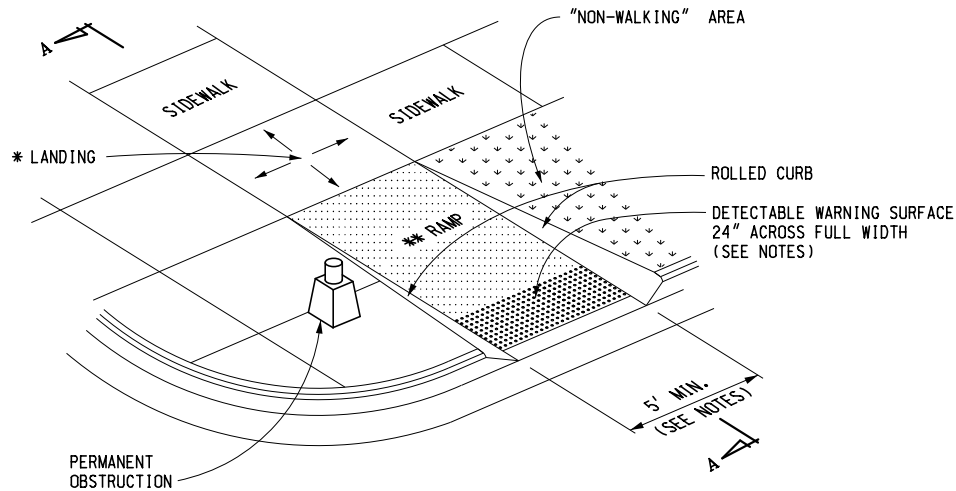
4. Utility Cuts, Trenches and Pavement Replacement – Utility crossing by pavement cutting and removal are generally prohibited. If extenuating circumstances make tunneling, boring and jacking impractical pavement cutting may be used with approval of the Department. All utility cuts, trenching and pavement replacement shall comply with the requirements of the Standard Specifications and the Standard Plan "Utility Cuts, Trenches and Pavement Replacement". Unless otherwise specified, cuts in concrete residential and commercial drives shall be as above; except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint shall be a minimum of 3 feet. Backfill shall be made with sand-gravel as specified in the Standard Specifications, unless otherwise directed. After the backfill has been placed and compacted by controlled density method, the pavement shall be replaced with new pavement of the original type and quality, unless at the season of the year when it is not feasible to replace

pavement in kind. In this case, a temporary surface of bituminous material shall be placed with Department approval and later replaced with pavement of the original type at the applicant's expense. Other pavement types may be allowed with prior approval of the Department.

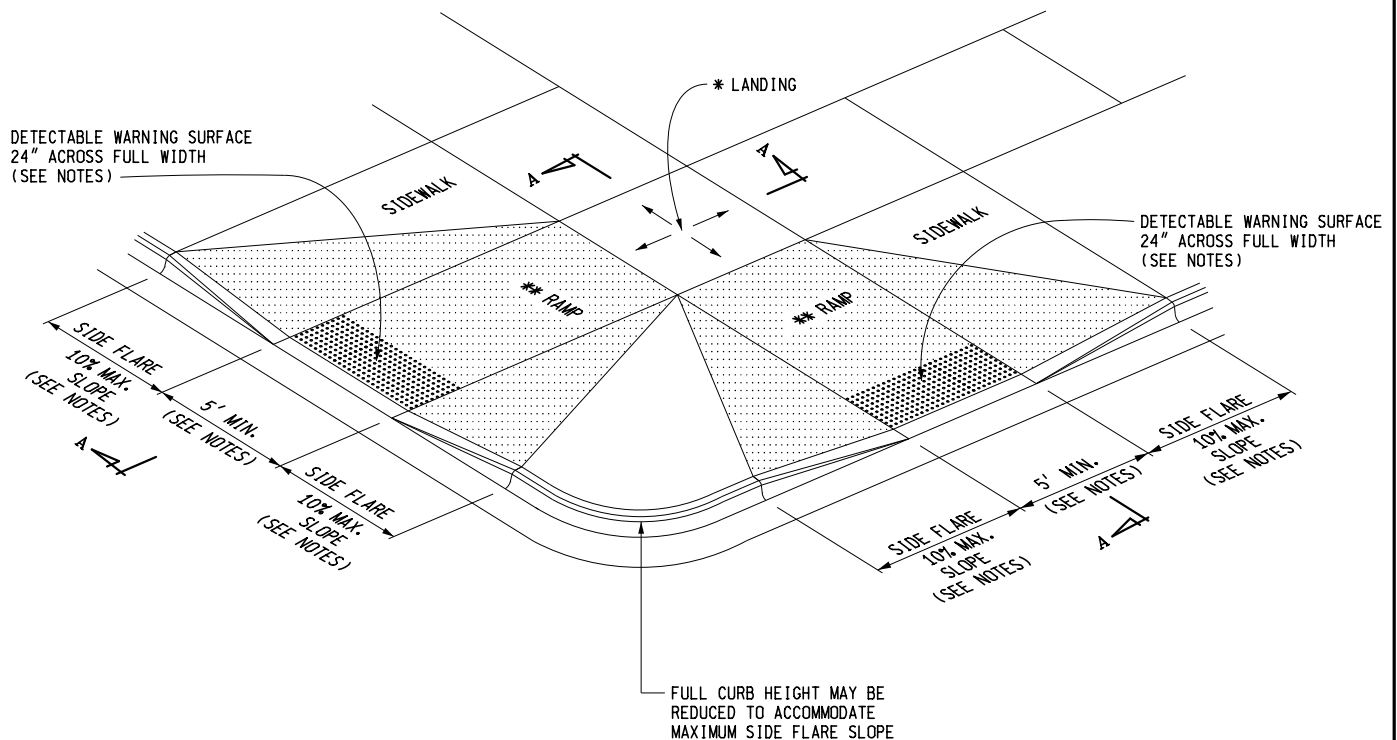
5. Crossing Roadbed by Tunneling or Boring and Jacking – All crossing of roadbed operations involving tunneling, boring and jacking shall comply with the Department's special provisions for such work.
6. Backfilling and Compacting Backfill – Unless otherwise specified, all trenches, holes and pits shall be filled with sound earth or with sand-gravel if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping. All backfill compaction will be subject to check by the controlled density method.
7. Depth of Cover Method- Unless otherwise authorized, pipes shall be placed to a depth that will provide not less than 6 feet of cover between the top of the roadway surface and the pipe, 3 feet cover below the ditch line. All bores across MDOT highways that are 12" or larger will require a geotechnical report that complies with the General Conditions and conditions of the permit.
8. Trees:
 - a. The permittee is responsible for obtaining permission from abutting owners when trimming or removing trees on easement right of way.
 - b. Tree removal or trimming may be undertaken only after submission of an "Advance Notice" through CPS, a field review by the Region Resource Specialist and an approved copy of the advanced notice is e-mailed to the permittee.
 - c. Limbs, logs, stumps and litter shall be disposed of in a manner acceptable to the Department.
 - d. Tree roots shall be bored a distance of one foot for each one inch of trunk diameter for underground utility installations
9. Aerial Wire Crossings – Vertical clearance of wires, conductors and cables over state trunkline shall not be less than required by Section 232 of the National Electrical Safety Code, except in no case shall the under-clearance below any wire, conductor, or cable, under any temperature or loading condition, be less than eighteen feet (18').

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)



SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

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

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL

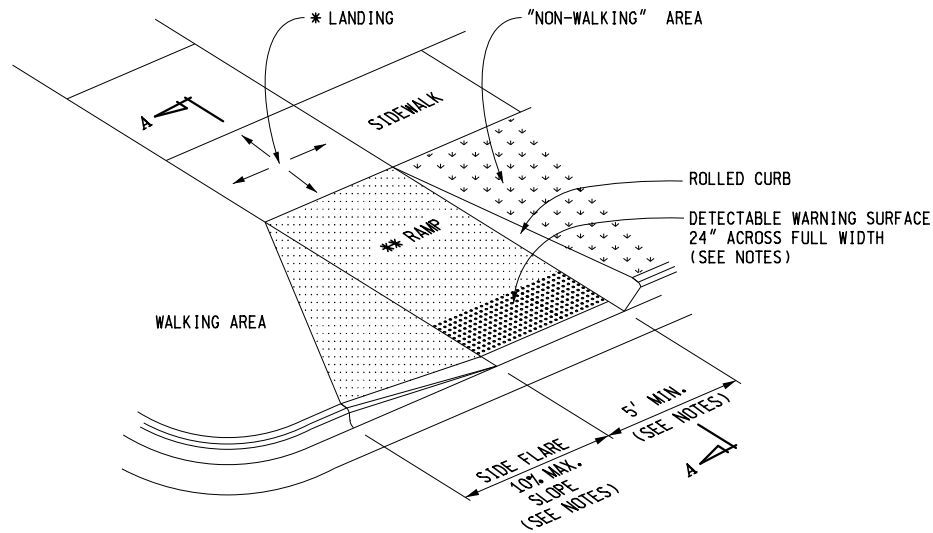
6-27-2017
PLAN DATE

R-28-J

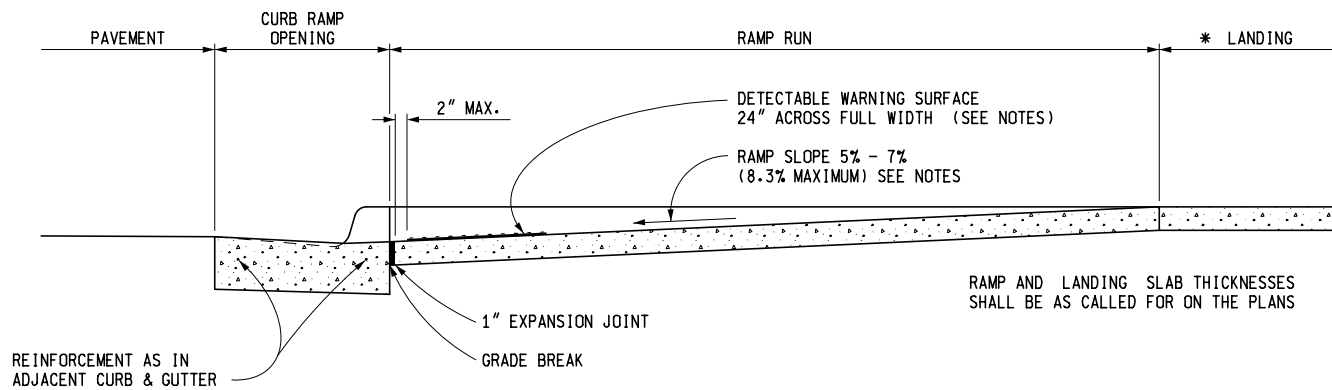
SHEET
1 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

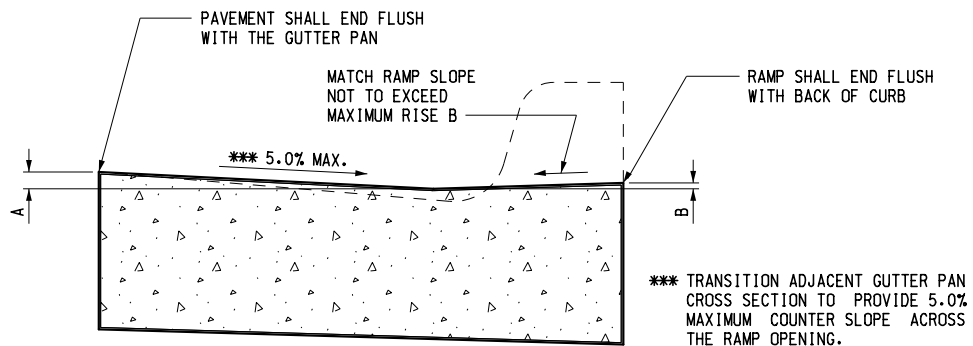


SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



REINFORCEMENT AS IN
ADJACENT CURB & GUTTER

SECTION A-A



SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

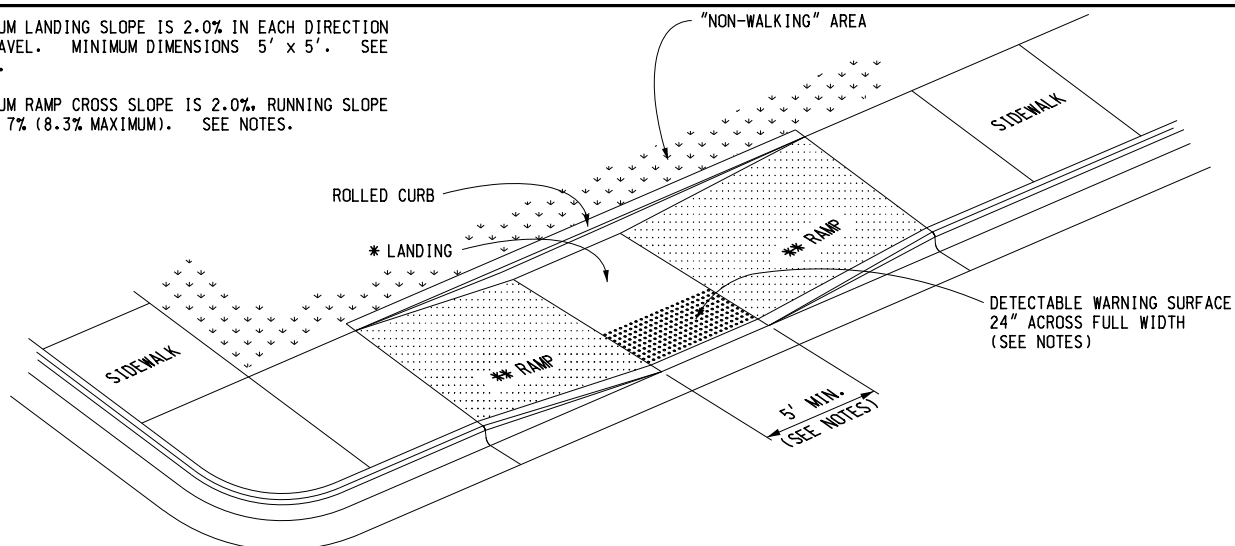
6-27-2017
PLAN DATE

R-28-J

SHEET
2 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

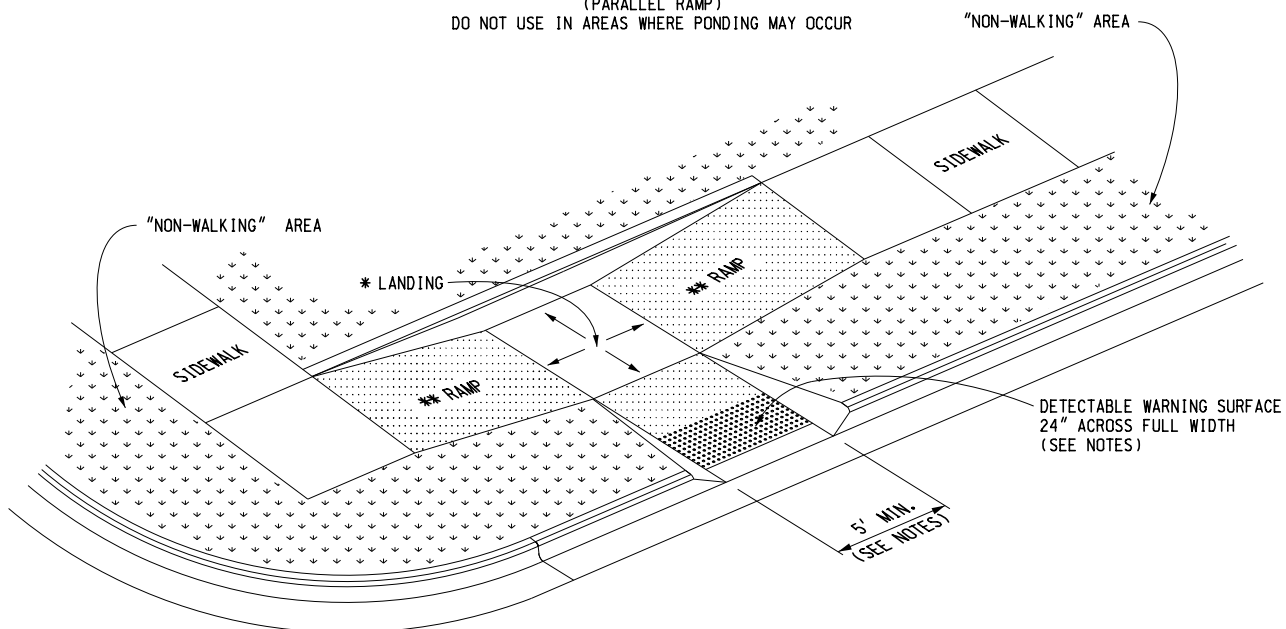
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE P

(PARALLEL RAMP)

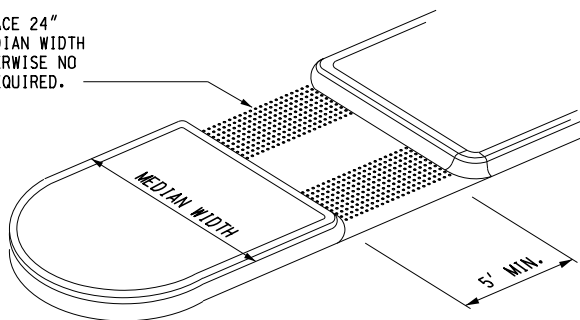
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C

(COMBINATION RAMP)

DETECTABLE WARNING SURFACE 24" ACROSS FULL WIDTH IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



SIDEWALK RAMP TYPE M

(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL

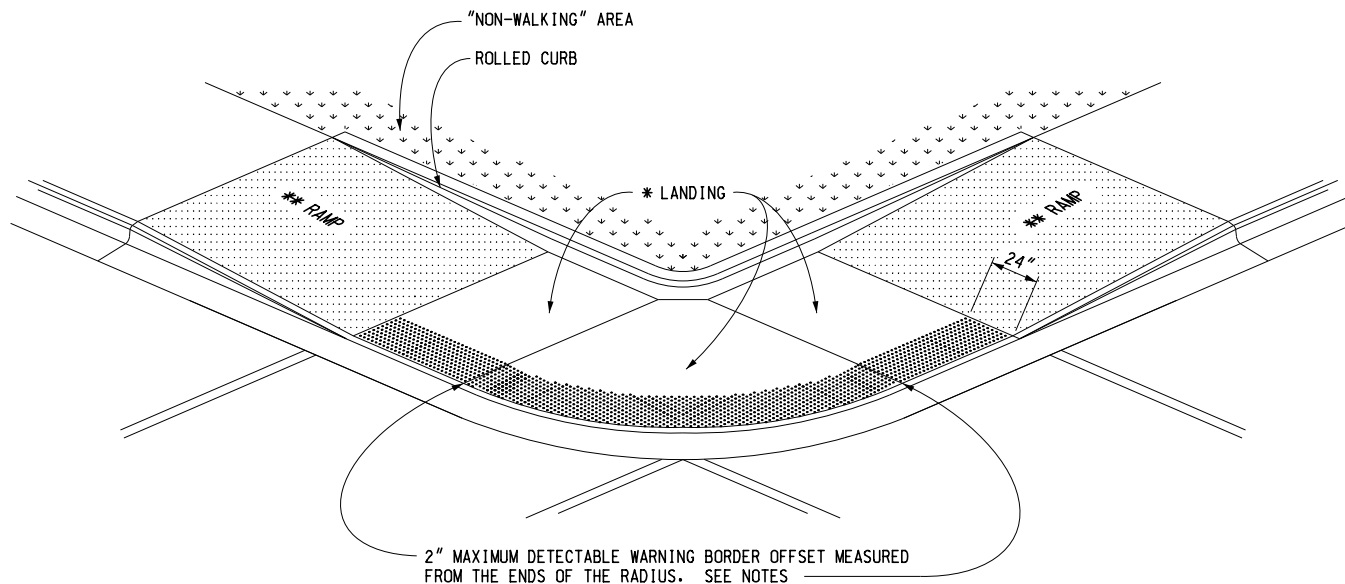
6-27-2017
PLAN DATE

R-28-J

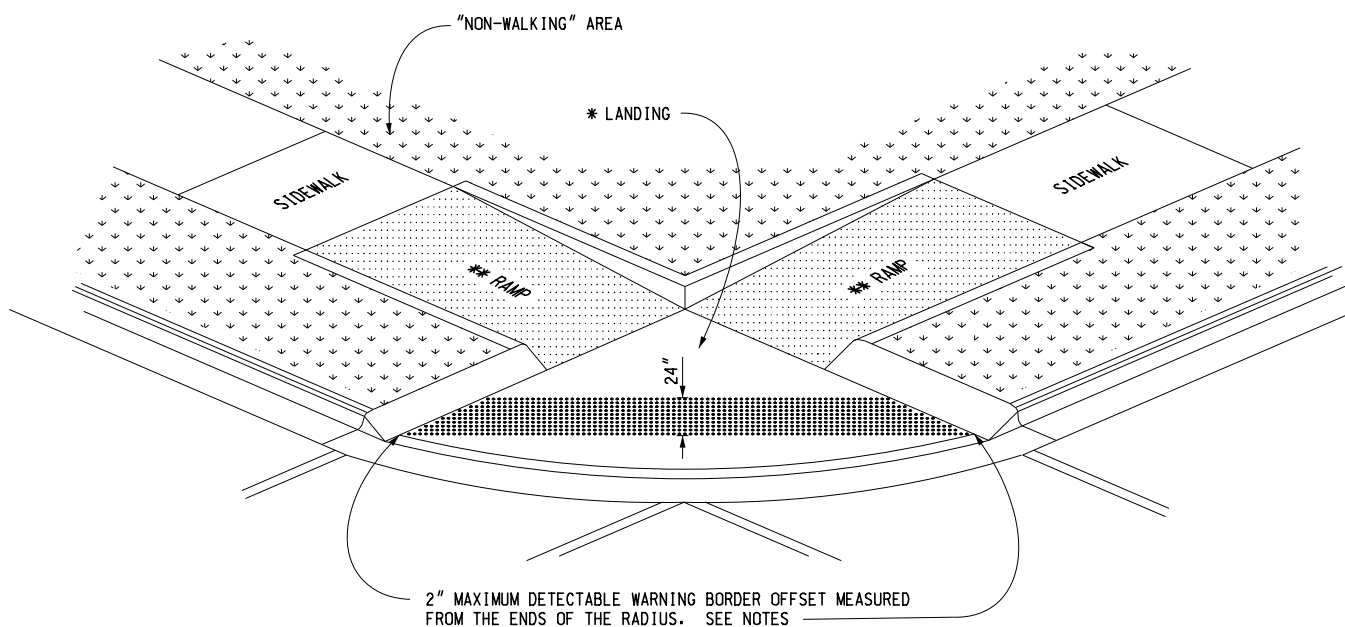
SHEET
3 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. 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)

SIDEWALK 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

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

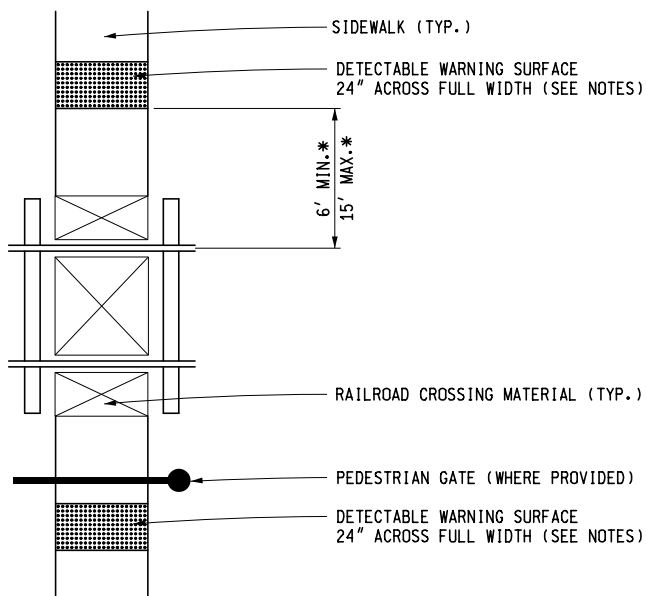
F.H.W.A. APPROVAL

6-27-2017
PLAN DATE

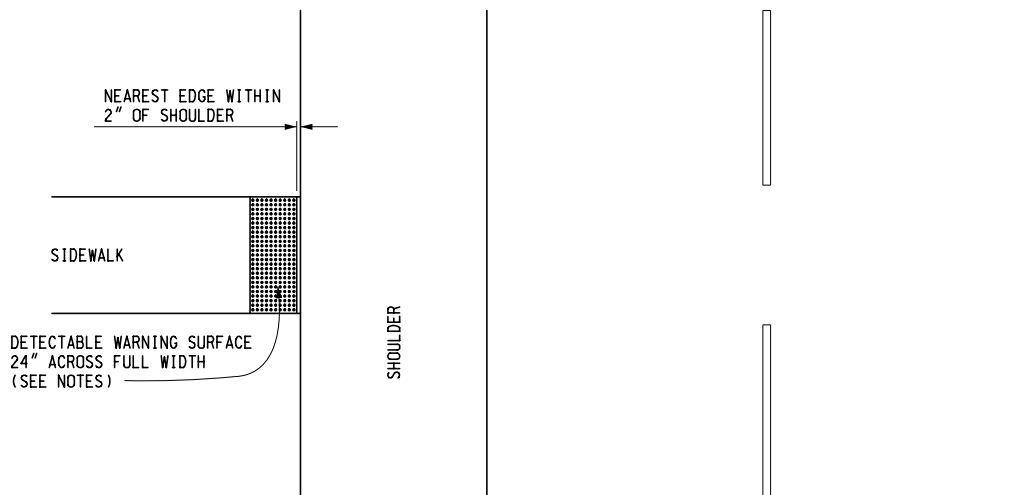
R-28-J

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

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

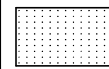
F.H.W.A. APPROVAL

6-27-2017
PLAN DATE

R-28-J

SHEET
5 OF 7

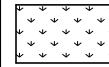
LEGEND



SLOPED SURFACE



DETECTABLE WARNING



"NON-WALKING" AREA



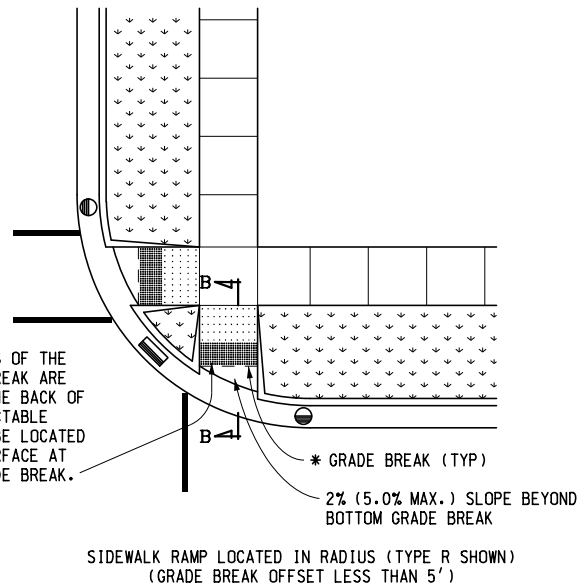
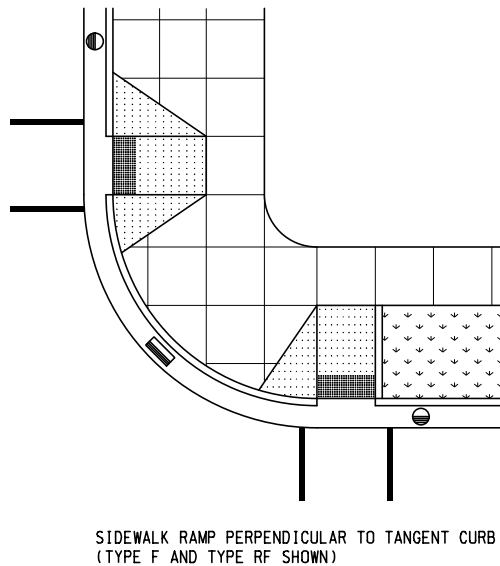
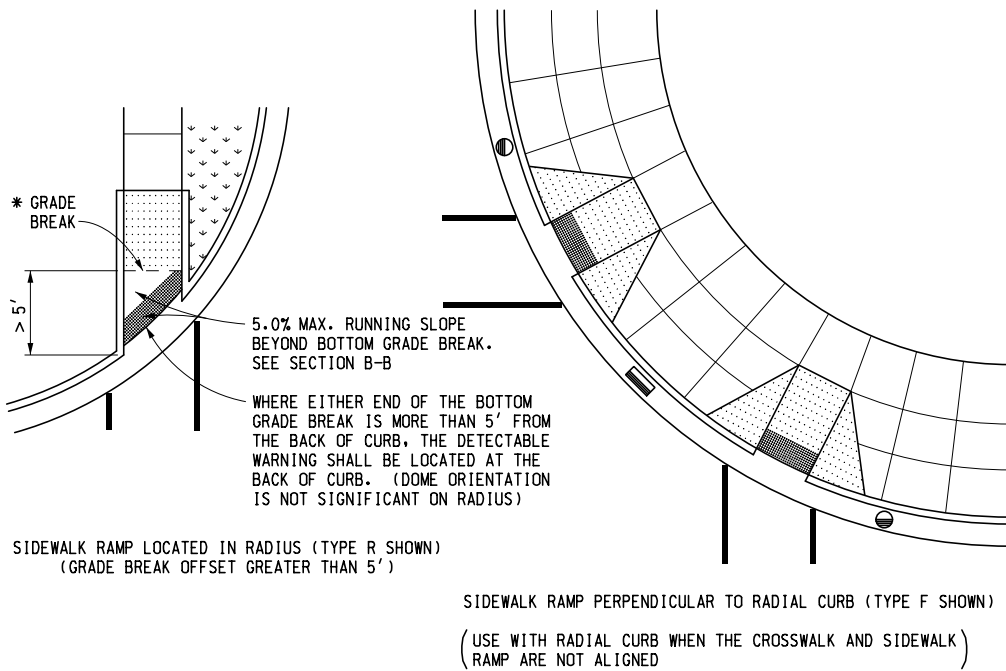
CROSSWALK MARKING



PREFERRED LOCATION OF DRAINAGE INLET (TYP.)



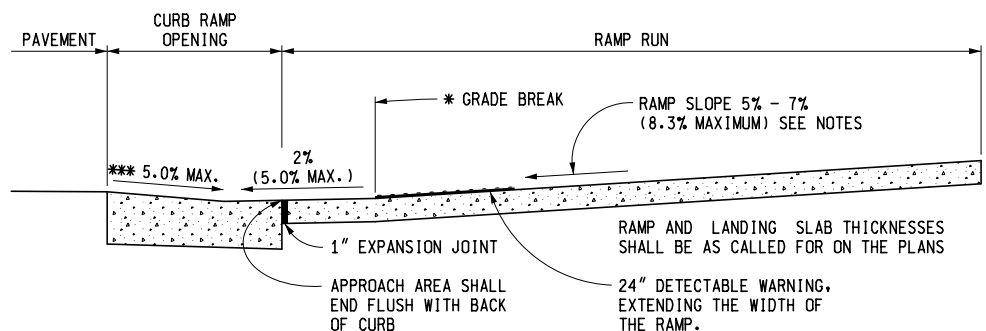
ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



* 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

SIDEWALK RAMP ORIENTATION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

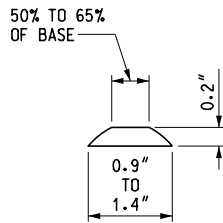
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL

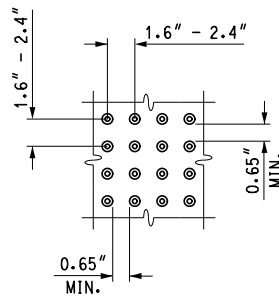
6-27-2017
PLAN DATE

R-28-J

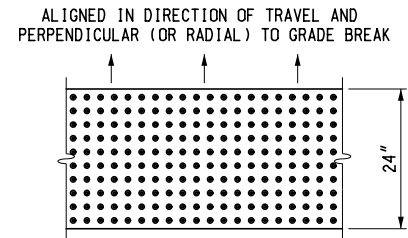
SHEET
6 OF 7



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.

SIDEWALK 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'.

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 1/2". 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 SIDEWALK 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

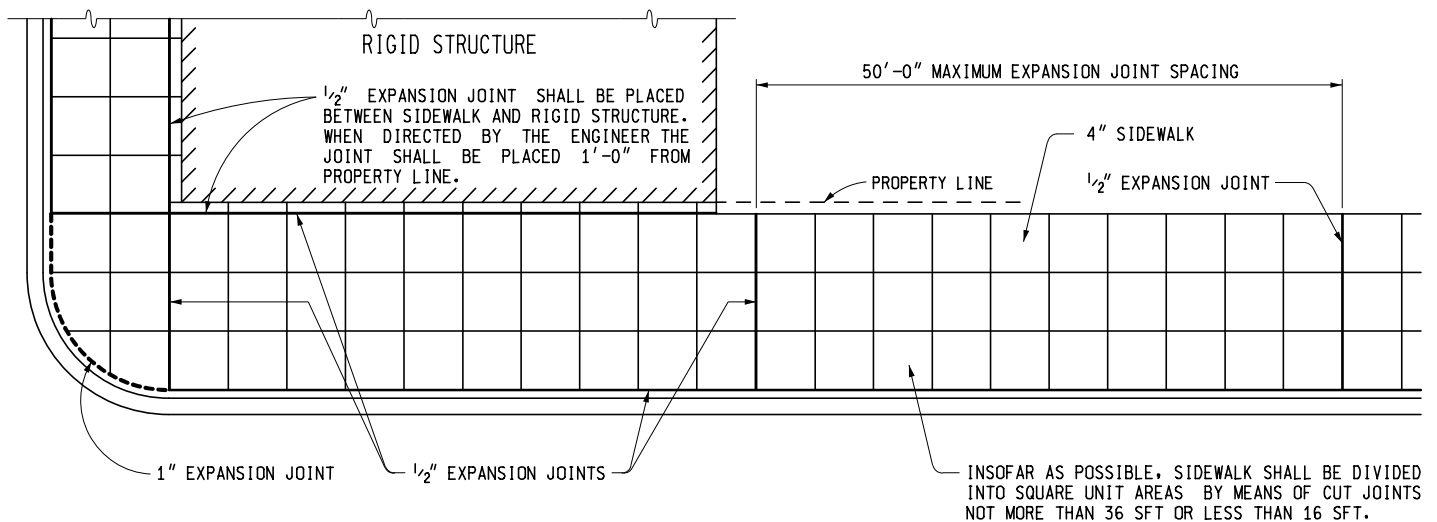
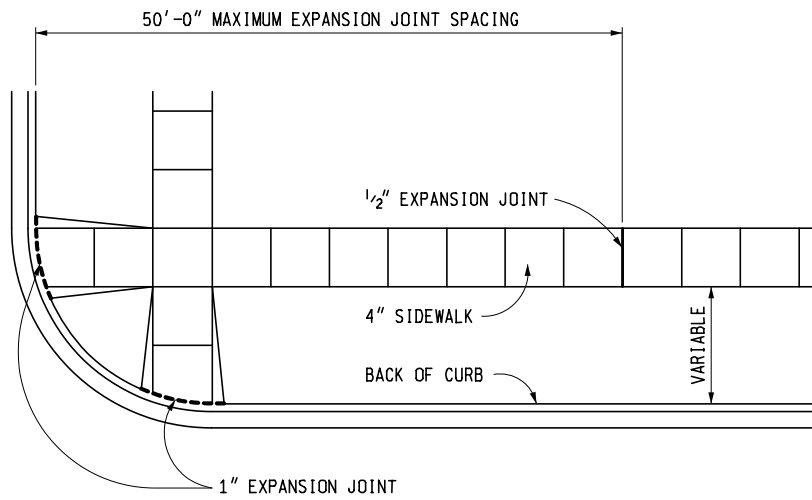
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL

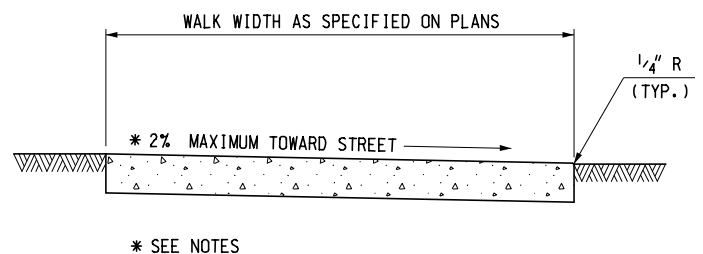
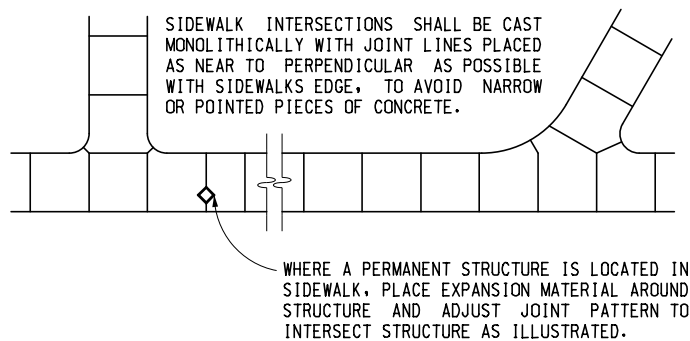
6-27-2017
PLAN DATE

R-28-J

SHEET
7 OF 7



LOCATION OF JOINTS IN CONCRETE SIDEWALK



TYPICAL SIDEWALK JOINT LAYOUTS

4" CONCRETE SIDEWALK



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY:

Randy U. Pugh
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY:

Mark A. Van Pelt
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013

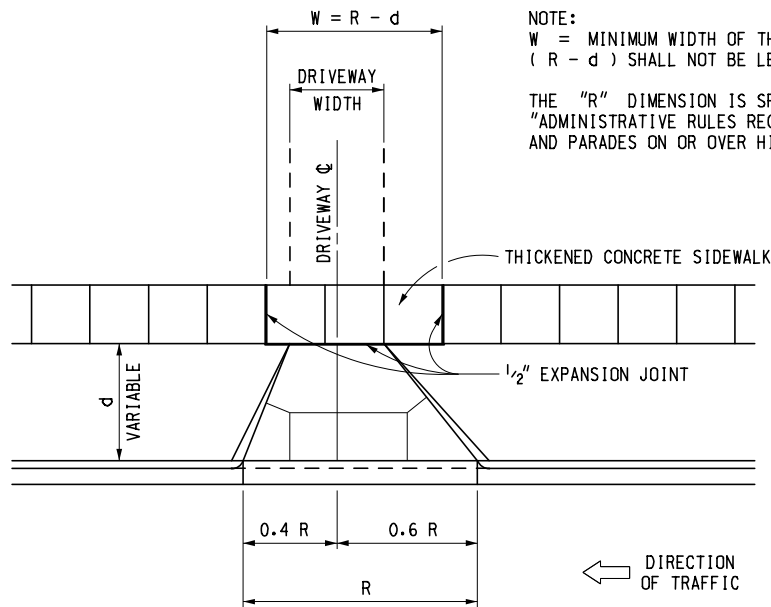
F.H.W.A. APPROVAL

10-1-2012

PLAN DATE

R-29-H

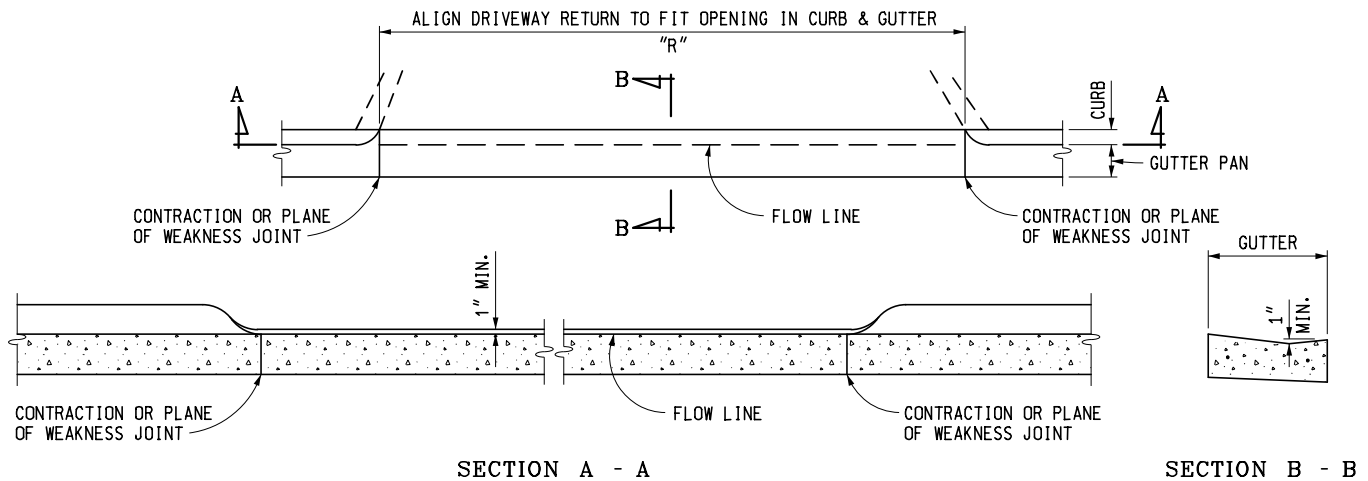
SHEET
1 OF 4



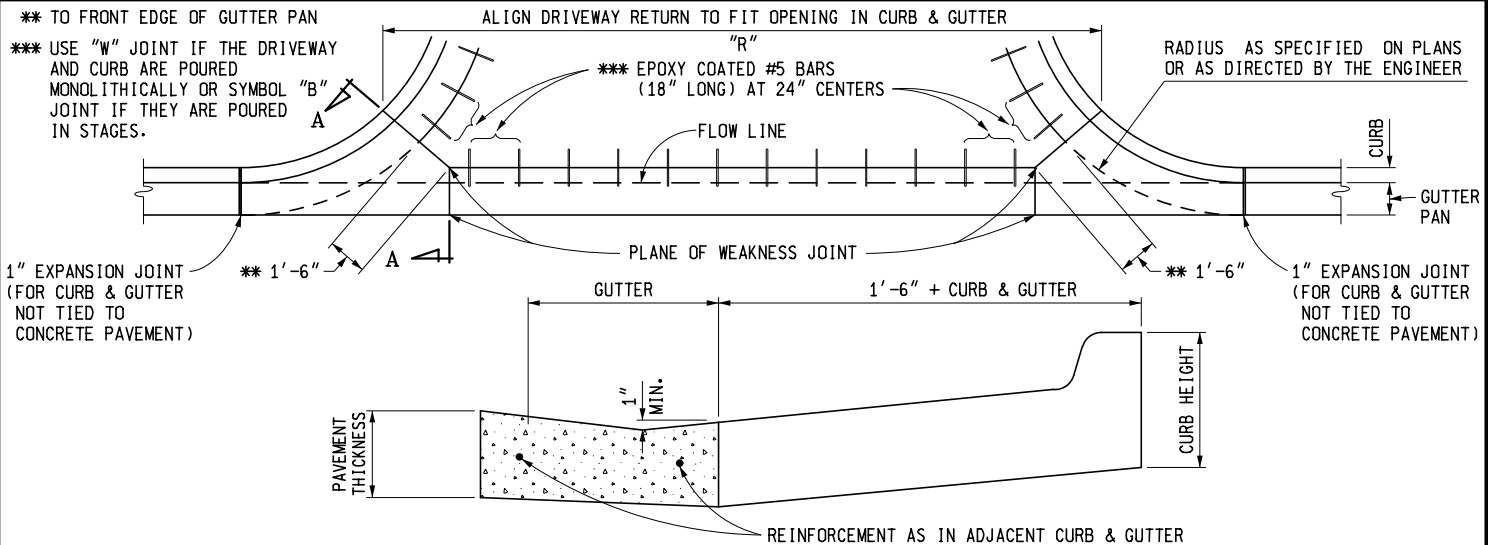
NOTE:
W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK.
(R - d) SHALL NOT BE LESS THAN DRIVEWAY WIDTH.

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

CONCRETE DRIVEWAY OPENING LAYOUT



CONCRETE DRIVEWAY OPENING, DETAIL L



CONCRETE DRIVEWAY OPENING, DETAIL M

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

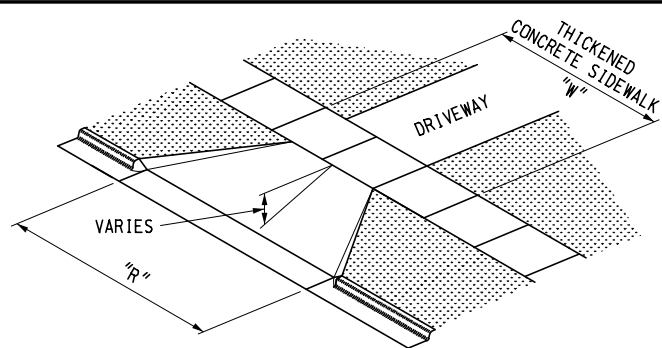
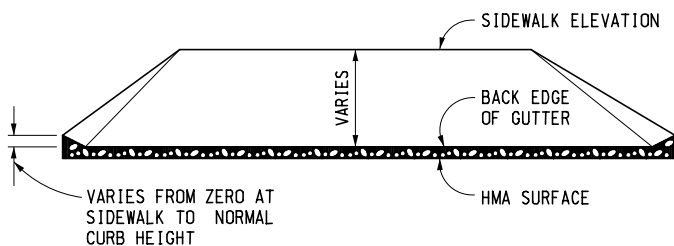
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

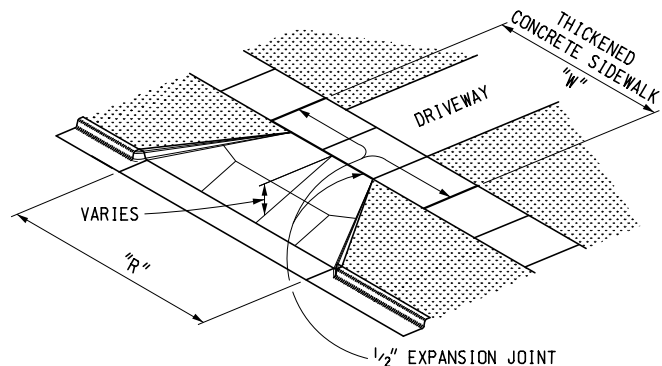
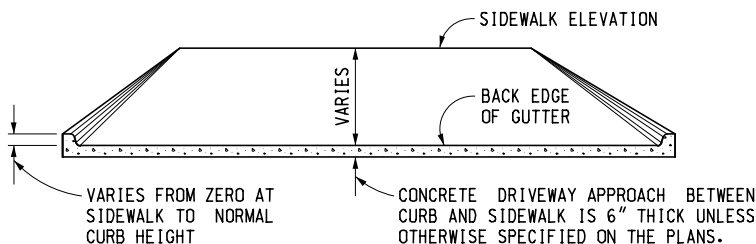
10-1-2012
PLAN DATE

R-29-H

SHEET
2 OF 4



HMA DRIVEWAY APPROACH (TO BE USED WITH DETAIL L)

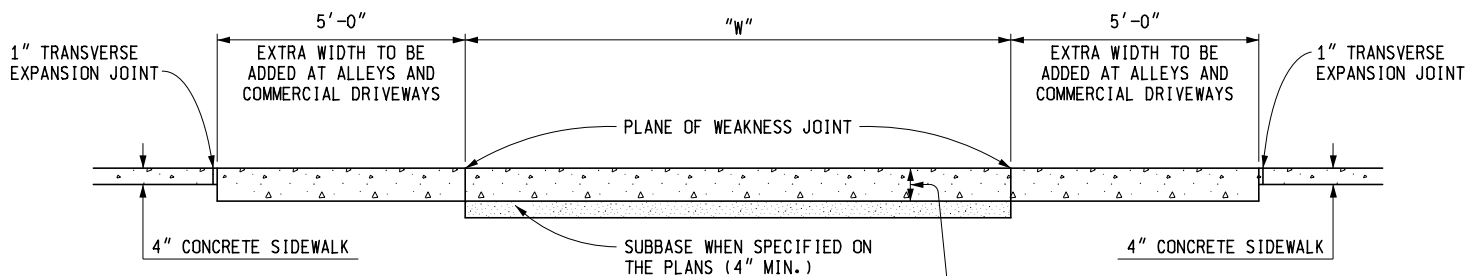


NOTES:

MONOLITHIC CURB IS INCLUDED IN THE CONCRETE DRIVEWAY APPROACH QUANTITY.

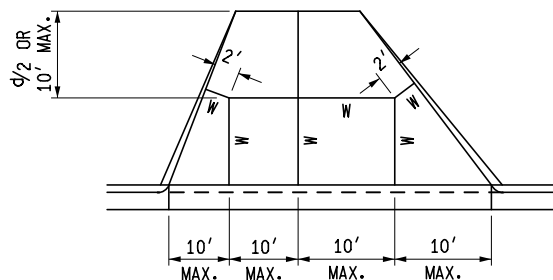
REINFORCEMENT IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. WHEN REINFORCEMENT IS SPECIFIED, SEE CHART ON THIS SHEET.

CONCRETE DRIVEWAY APPROACH (TO BE USED WITH DETAIL L OR M)



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

THICKENED CONCRETE SIDEWALK



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

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

INTERMEDIATE DRIVEWAY JOINT DETAILS

REINFORCEMENT FOR CONCRETE DRIVEWAYS

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

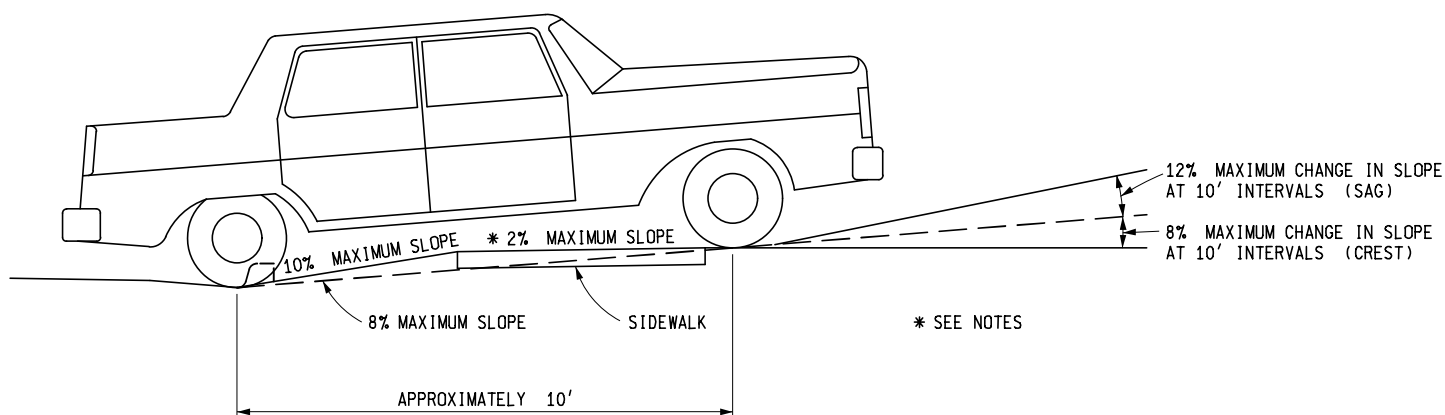
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

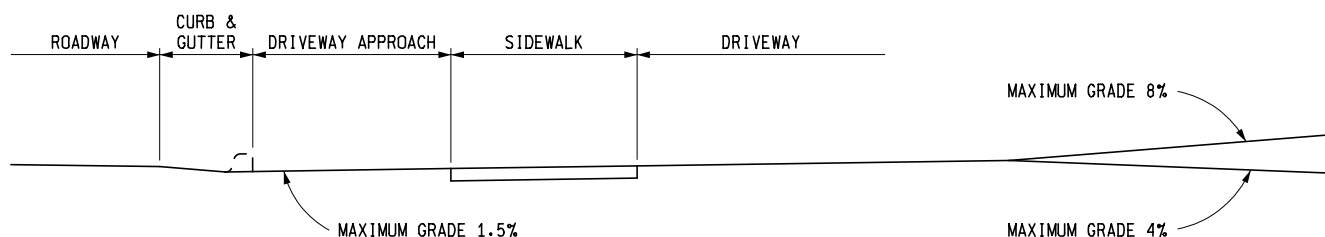
10-1-2012
PLAN DATE

R-29-H

SHEET
3 OF 4



LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES



COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

NOTES:

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

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

TRANSVERSE SIDEWALK SLOPES ARE TYPICALLY 1.5% OR 2% MAXIMUM. IN ORDER TO MEET SITE CONDITIONS, IF THE TRANSVERSE SLOPE IS REQUIRED TO BE LESS THAN 1.5%, LONGITUDINAL DRAINAGE MUST BE PROVIDED.

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

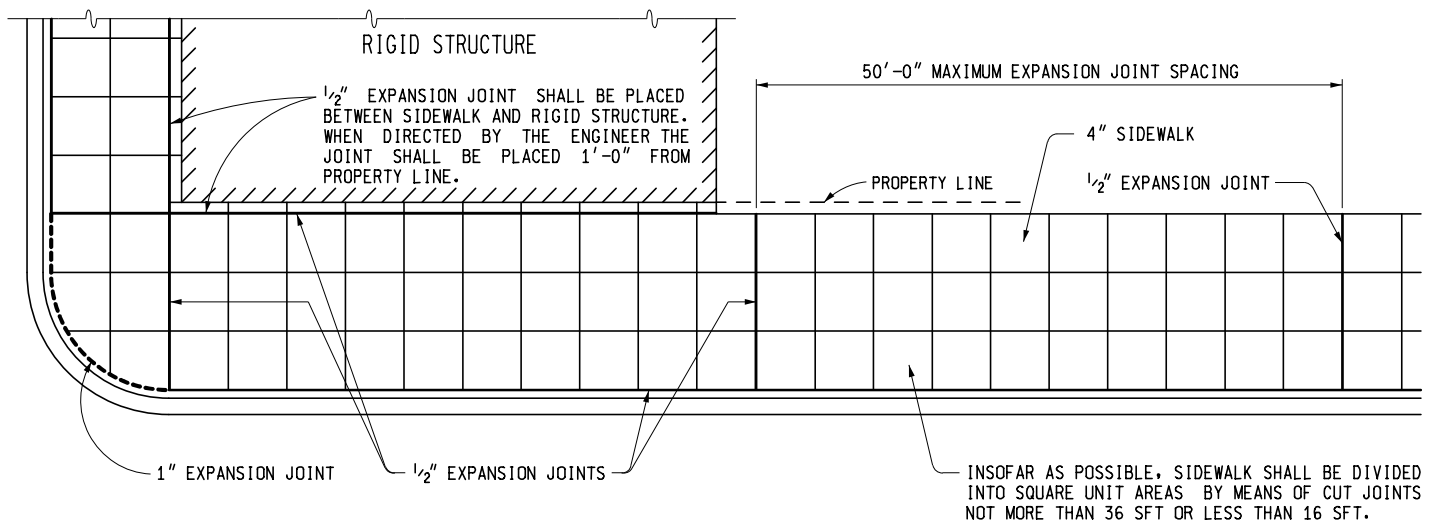
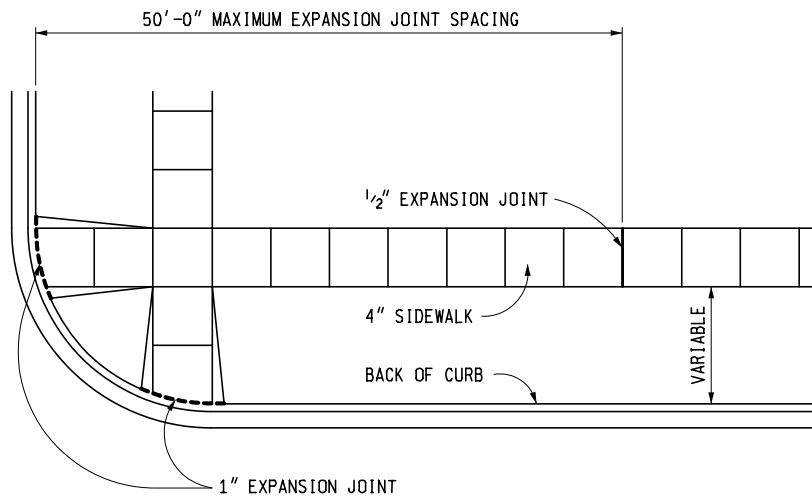
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

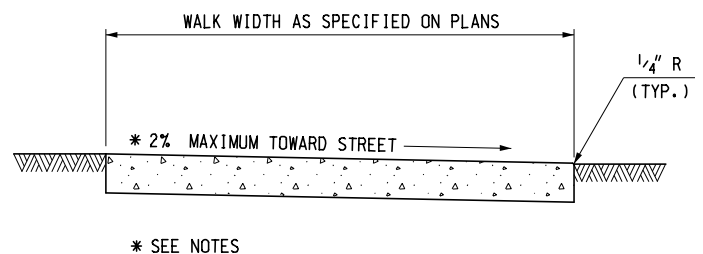
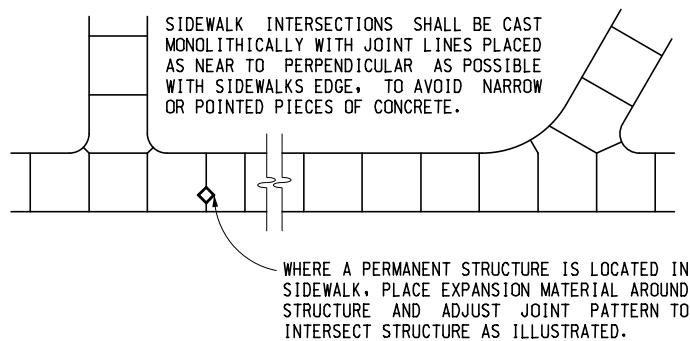
10-1-2012
PLAN DATE

R-29-H

SHEET
4 OF 4



LOCATION OF JOINTS IN CONCRETE SIDEWALK



TYPICAL SIDEWALK JOINT LAYOUTS

4" CONCRETE SIDEWALK



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY:

Randy U. Pugh
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY:

Mark A. Van Pelt
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013

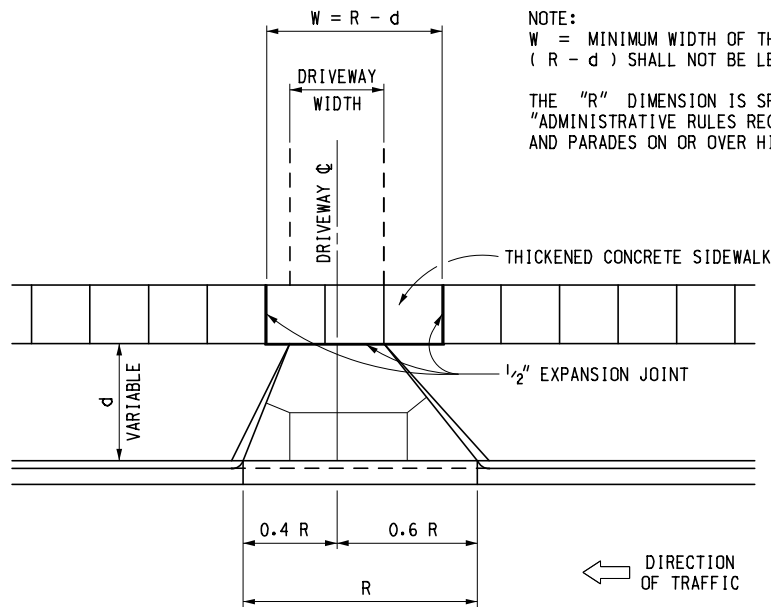
F.H.W.A. APPROVAL

10-1-2012

PLAN DATE

R-29-H

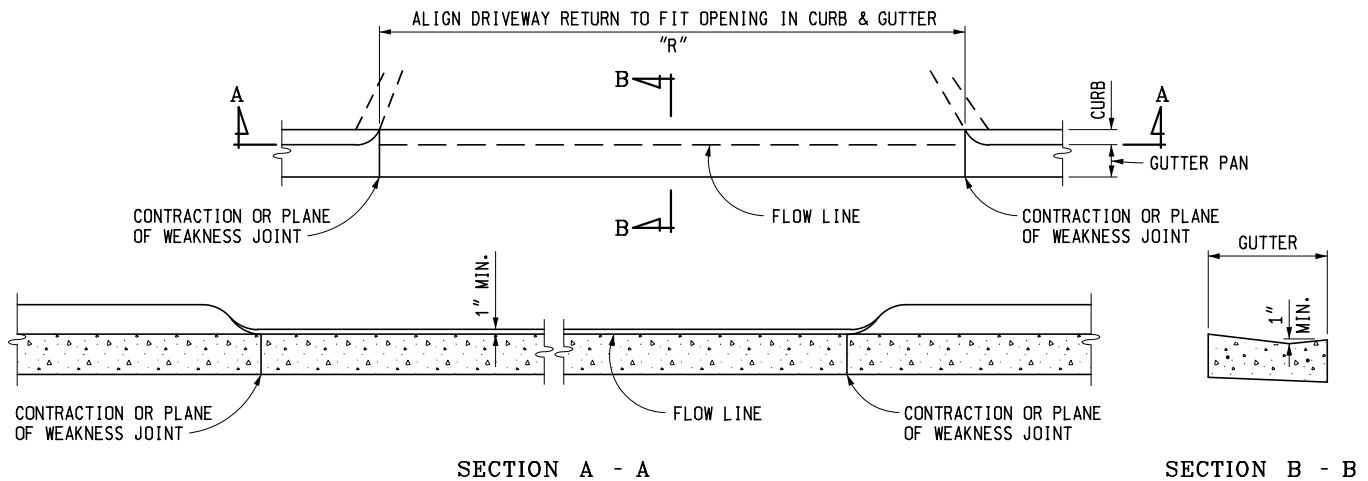
SHEET
1 OF 4



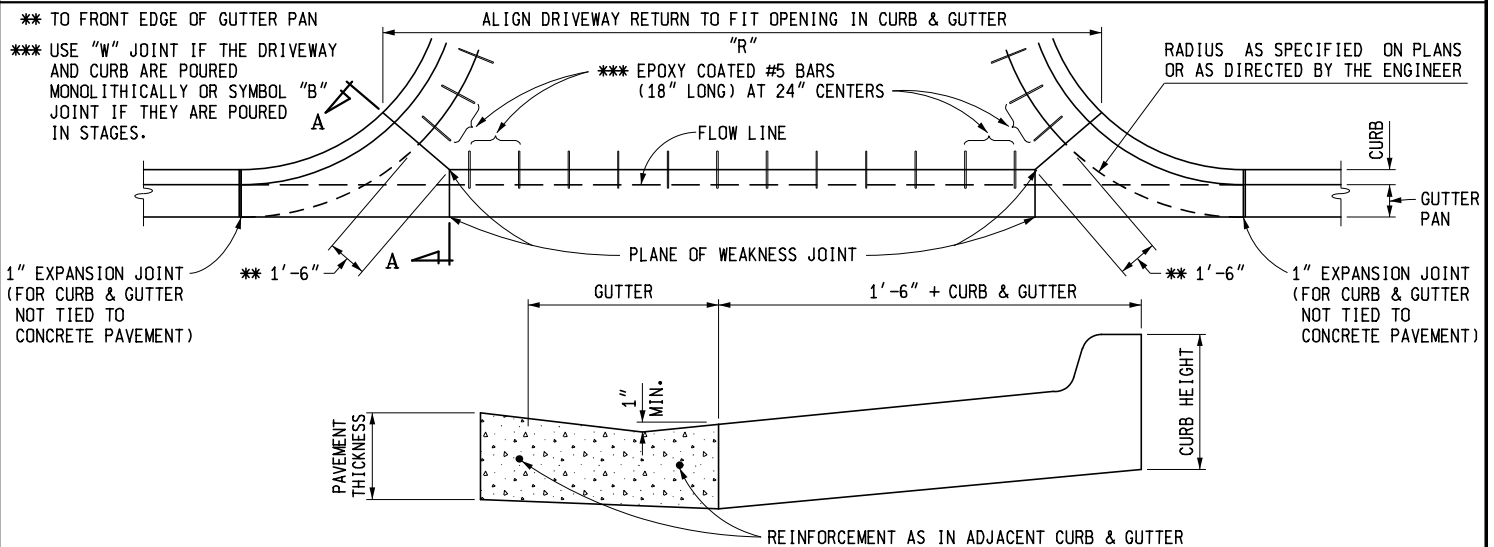
NOTE:
W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK.
(R - d) SHALL NOT BE LESS THAN DRIVEWAY WIDTH.

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

CONCRETE DRIVEWAY OPENING LAYOUT



CONCRETE DRIVEWAY OPENING, DETAIL L



CONCRETE DRIVEWAY OPENING, DETAIL M

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

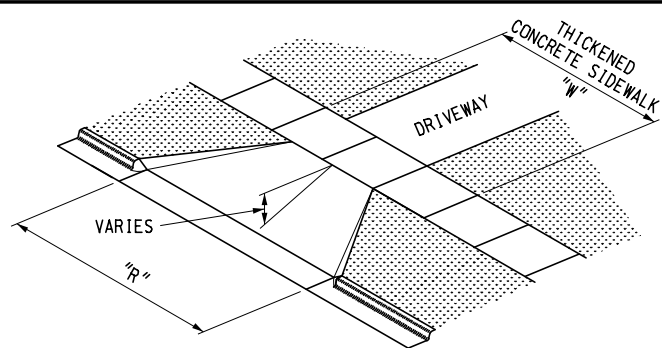
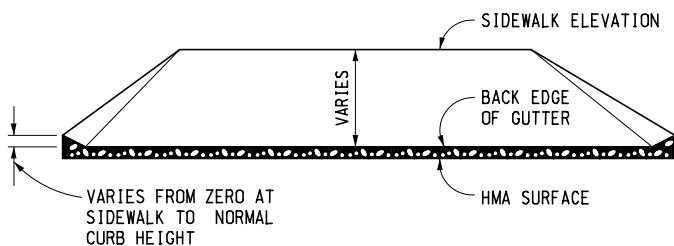
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

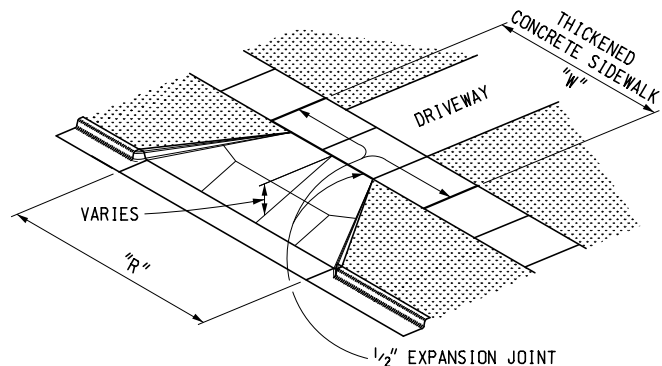
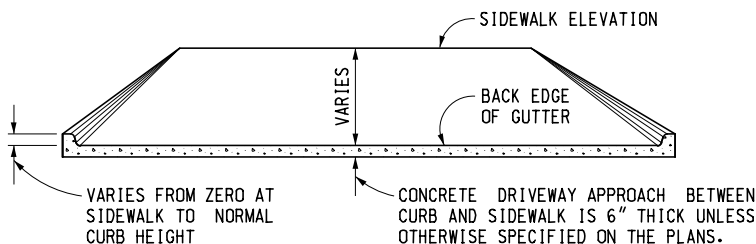
10-1-2012
PLAN DATE

R-29-H

SHEET
2 OF 4



HMA DRIVEWAY APPROACH (TO BE USED WITH DETAIL L)

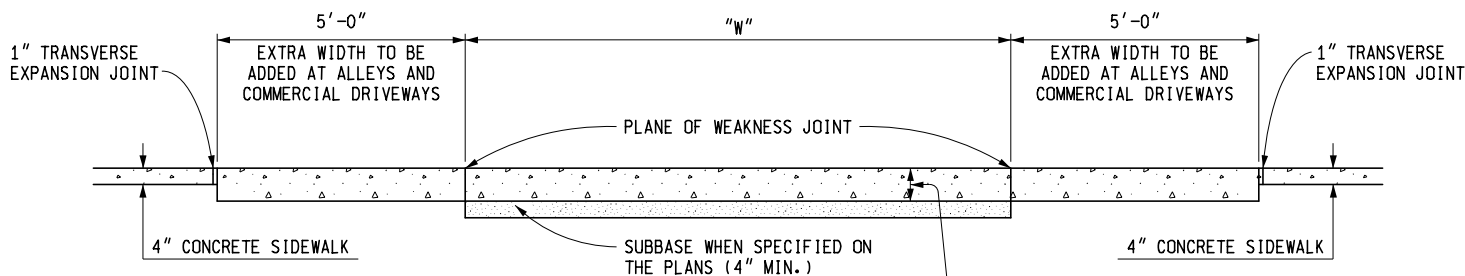


NOTES:

MONOLITHIC CURB IS INCLUDED IN THE CONCRETE DRIVEWAY APPROACH QUANTITY.

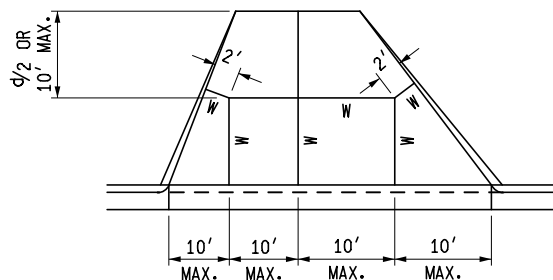
REINFORCEMENT IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. WHEN REINFORCEMENT IS SPECIFIED, SEE CHART ON THIS SHEET.

CONCRETE DRIVEWAY APPROACH (TO BE USED WITH DETAIL L OR M)



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

THICKENED CONCRETE SIDEWALK



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

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

INTERMEDIATE DRIVEWAY JOINT DETAILS

REINFORCEMENT FOR CONCRETE DRIVEWAYS

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

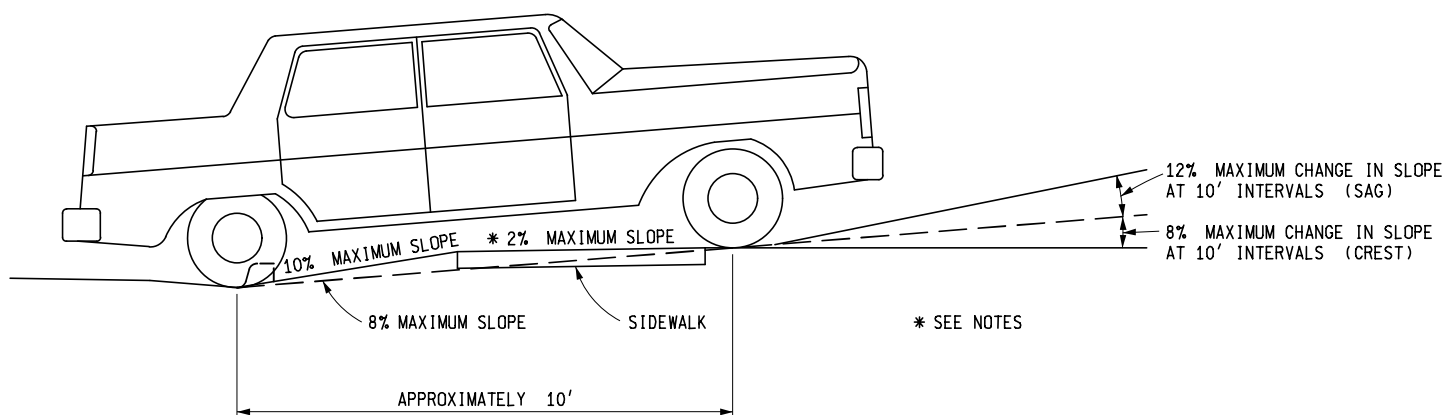
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

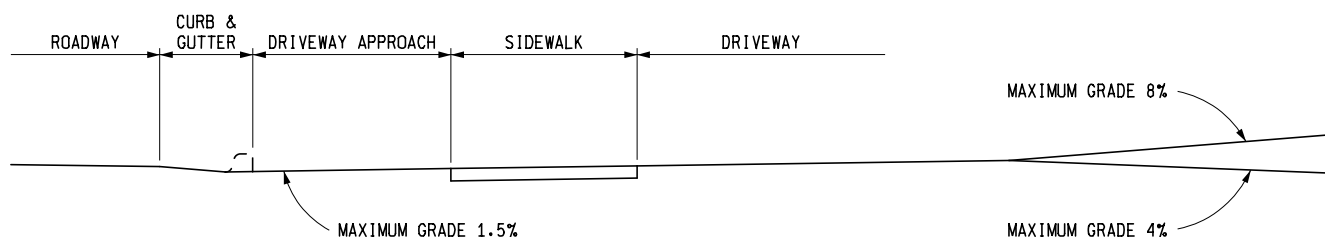
10-1-2012
PLAN DATE

R-29-H

SHEET
3 OF 4



LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES



COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

NOTES:

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

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

TRANSVERSE SIDEWALK SLOPES ARE TYPICALLY 1.5% OR 2% MAXIMUM. IN ORDER TO MEET SITE CONDITIONS, IF THE TRANSVERSE SLOPE IS REQUIRED TO BE LESS THAN 1.5%, LONGITUDINAL DRAINAGE MUST BE PROVIDED.

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

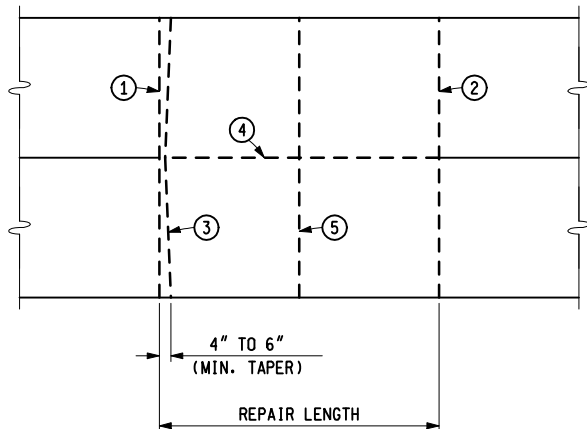
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

1-25-2013
F.H.W.A. APPROVAL

10-1-2012
PLAN DATE

R-29-H

SHEET
4 OF 4

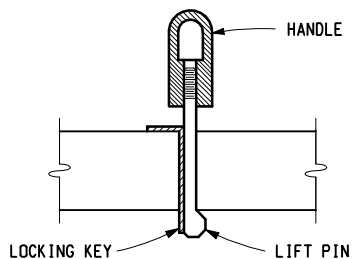


PLAN OF SAWING DIAGRAM

THIS METHOD OF REMOVING DISTRESSED CONCRETE SHALL BE USED IN CONJUNCTION WITH FULL DEPTH CAST-IN-PLACE REPAIRS LESS THAN 50'-0" LONG AND IS OPTIONAL FOR REPAIRS OVER 50'-0" IN LENGTH.

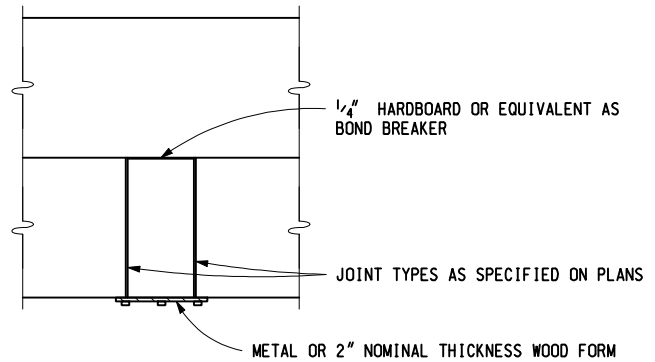
- ① & ② THESE SAW CUTS SHALL BE FULL DEPTH AND PERPENDICULAR TO THE EDGE OF THE ROADWAY, WITHIN A TOLERANCE OF 1". NO OVERCUTTING INTO ADJACENT LANES SHALL BE MADE UNLESS THE OVERCUT IS WITHIN THE LIMITS OF A SUBSEQUENT REPAIR TO THE ADJACENT LANE. SHOULDER OVERCUTS WILL BE ALLOWED.
- ③ THIS FULL DEPTH SAW CUT IS MADE TO FACILITATE OPENING A TRENCH ACROSS THE SLAB TO RELIEVE COMPRESSION IN THE PAVEMENT PRIOR TO LIFTING OUT THE FAILED AREA. THIS SAW CUT MAY BE OMITTED PROVIDED NO SPALLING OF THE REMAINING CONCRETE OCCURS. IF SPALLING DOES OCCUR, THE CONTRACTOR WILL BE REQUIRED TO MAKE THIS SAW CUT ON SUBSEQUENT REPAIRS. WHEN THIS SAW CUT IS USED AND THE ADJACENT LANE IS NOT REPAIRED, NO OVERCUTTING INTO THAT LANE SHALL BE MADE.
- ④ THIS LONGITUDINAL FULL DEPTH SAW CUT IS MADE BETWEEN LANES OR BETWEEN ANY COMBINATION OF THE FOLLOWING: LANE, RAMP, CURB, CONCRETE SHOULDER, OR PARTIAL LANE WIDTH REPAIR.
- ⑤ IF REQUIRED, INTERMEDIATE SAW CUTS MAY BE MADE TO REMOVE A SECTION OF PAVEMENT LANE WHICH IS OVER 6'-0" IN LENGTH, TO PERMIT LOADING INTO THE HAULING UNITS.

ADDITIONAL SAW CUTS, AT CONTRACTOR'S EXPENSE, MAY BE MADE INSIDE THE REPAIR LIMITS TO REDUCE 6'-0" BY 12'-0" OR LESS SLABS INTO SMALLER PIECES TO FACILITATE REMOVAL.

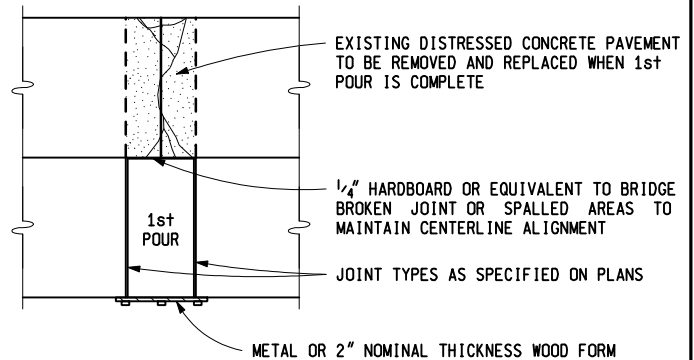


SCHEMATIC OF TYPICAL LIFT PIN ASSEMBLY

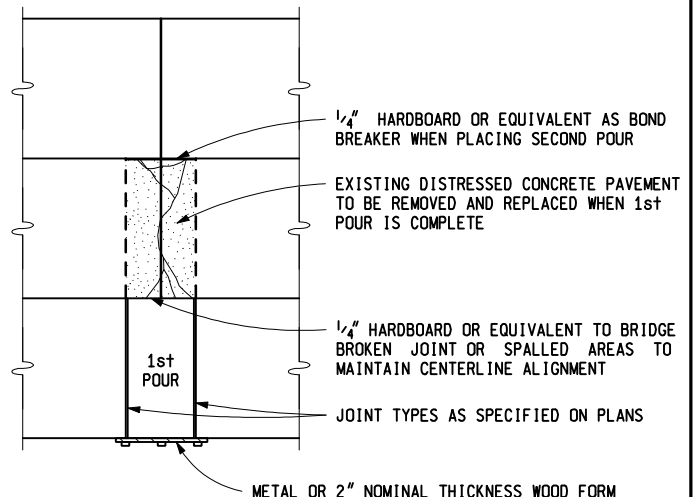
SAWING DIAGRAM & LIFT PIN FOR REMOVING OLD SLAB



ONE LANE REPAIRS
(2 - LANE ROADWAY SHOWN)



ALL LANES REPAIRED
(2 - LANE ROADWAY SHOWN)



MORE THAN ONE LANE REPAIRED
BUT REPAIR LESS THAN FULL WIDTH
(3 - LANE ROADWAY SHOWN)

FORMING NOTES:

STAKES USED TO HOLD HMA FILLER OR HARDBOARD IN PLACE DURING CONCRETE PLACEMENT SHALL BE REMOVED BEFORE SCREEDING THE CONCRETE.

ADJACENT LANE REPAIRS MAY BE CAST INTEGRALLY, WHEN APPROVED BY THE ENGINEER.

FORMING REQUIREMENTS FOR
CAST-IN-PLACE REPAIRS 12'-0" OR LESS



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Stedle

APPROVED BY: John C. Friend
ENGINEER OF DELIVERY

APPROVED BY: Paul A. Van Pelt
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

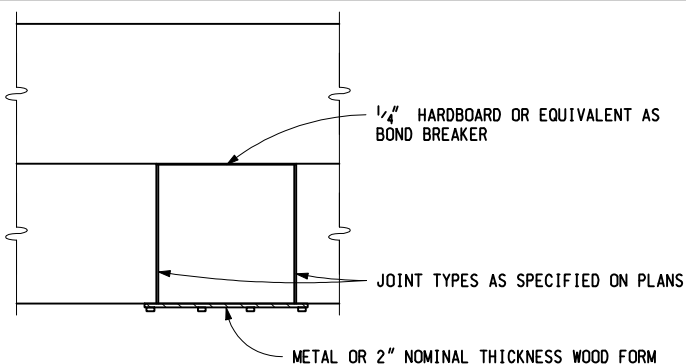
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

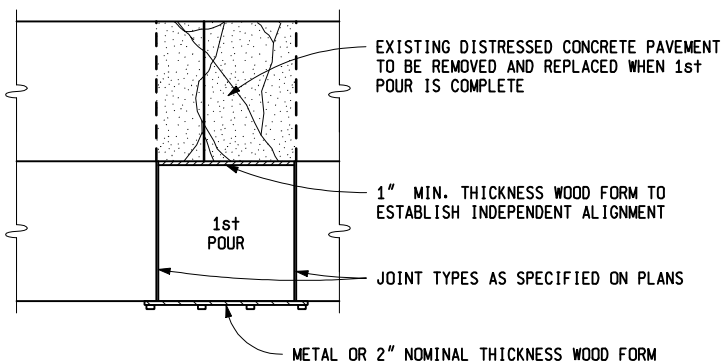
8-9-2010
PLAN DATE

R-44-F

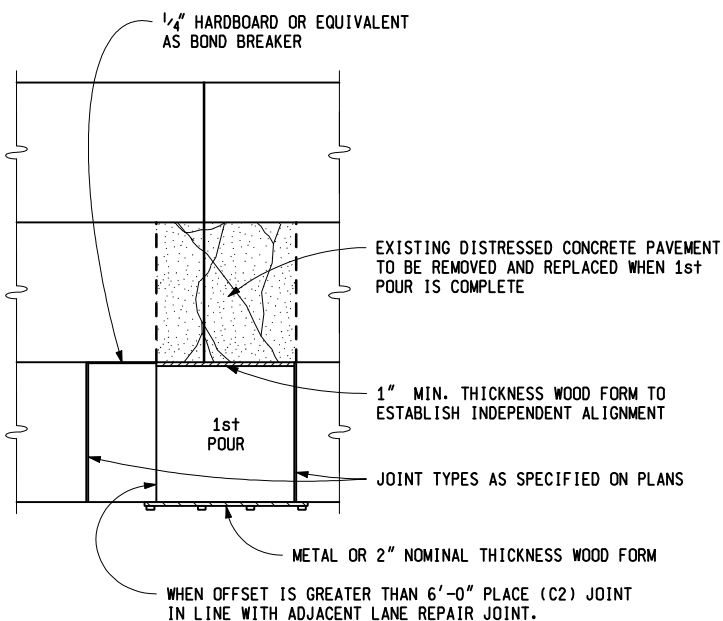
SHEET
1 OF 6



**ONE LANE REPAIRS
(2 - LANE ROADWAY SHOWN)**



**ALL LANES REPAIRED
(2 - LANE ROADWAY SHOWN)**



**MORE THAN ONE LANE REPAIRED
BUT REPAIRS ARE OFFSET
(3 - LANE ROADWAY SHOWN)**

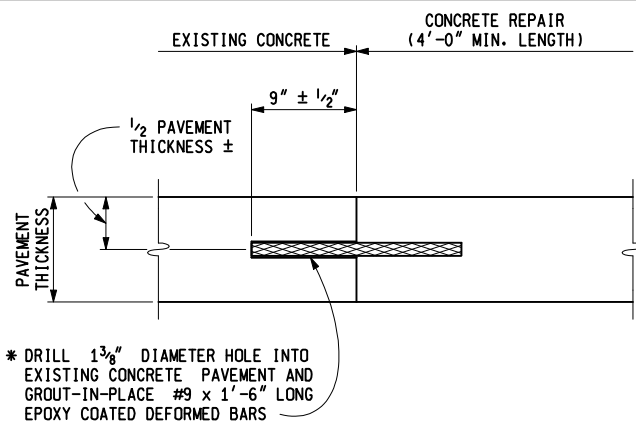
FORMING NOTES:

WHERE REPAIRS LONGER THAN 12'-0" ARE REQUIRED, A NEW GRADE MUST BE ESTABLISHED ALONG THE OLD PAVEMENT INNER JOINT LINE INDEPENDENT OF THE OLD PAVEMENT SURFACE, SO THAT SCREEDING MAY BE DONE PERPENDICULAR TO THE CENTERLINE AND INDEPENDENT OF THE OLD PAVEMENT GRADE.

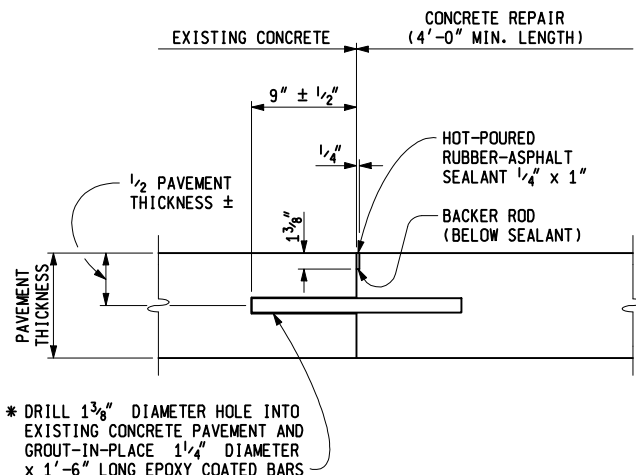
STAKES USED TO HOLD HMA FILLER OR HARDBOARD IN PLACE DURING CONCRETE PLACEMENT SHALL BE REMOVED BEFORE SCREEDING THE CONCRETE.

ADJACENT LANE REPAIRS MAY BE CAST INTEGRALLY, WHEN APPROVED BY THE ENGINEER.

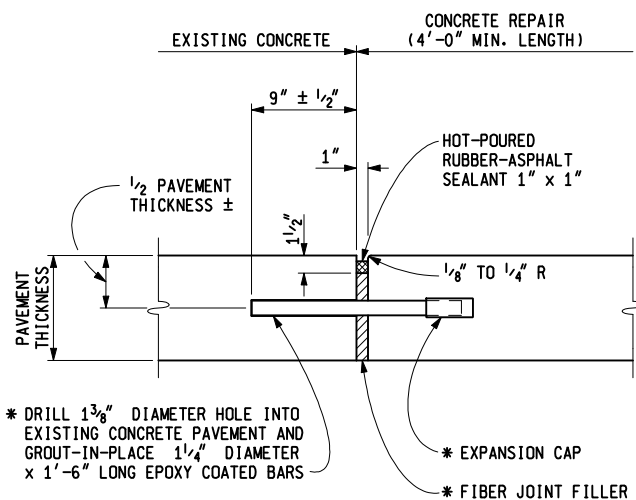
**FORMING REQUIREMENTS FOR
CAST-IN-PLACE REPAIRS GREATER THAN 12'-0"**



TIED JOINT, Trg



CONTRACTION JOINT, Crg



EXPANSION JOINT, Erg

* SEE SHEET 3 OF 6 FOR BAR SPACING
AND SHEET 6 OF 6 FOR NOTES.

**CAST-IN-PLACE REPAIR JOINTS USING
GROUTED DOWEL OR DEFORMED BARS**

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

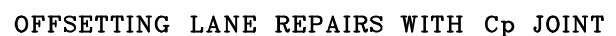
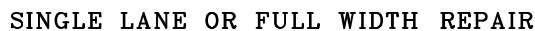
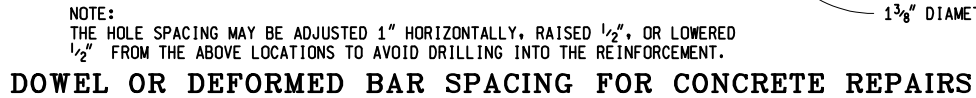
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

8-9-2010
PLAN DATE

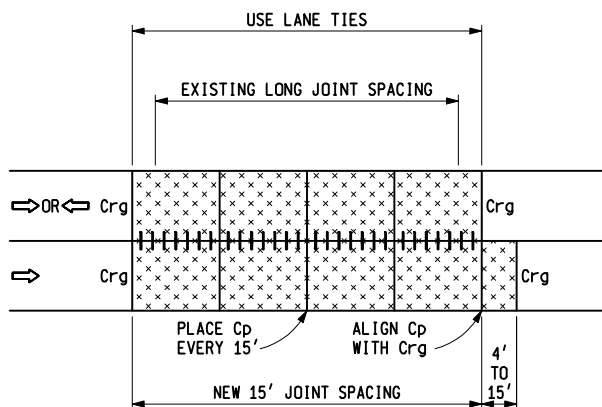
R-44-F

SHEET
2 OF 6

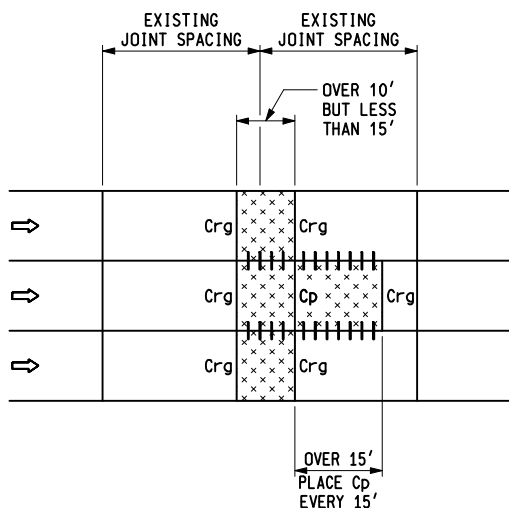


CONCRETE PAVEMENT REPAIR

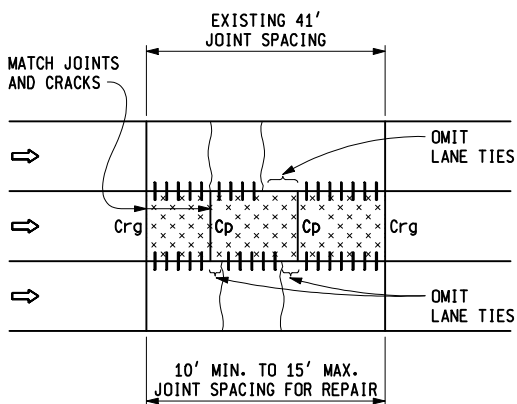
SHEET
3 OF 6



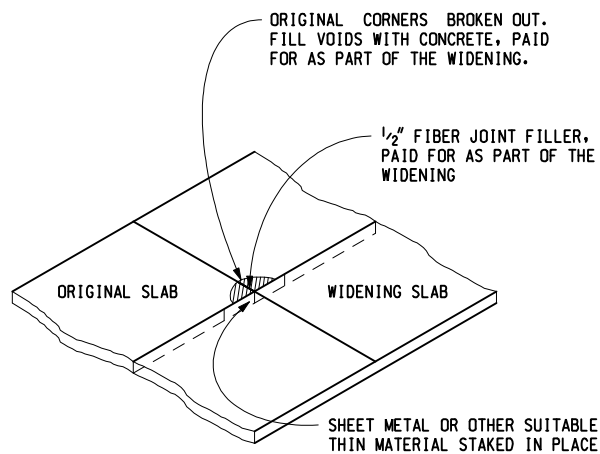
**LONG REPAIR SHOWING
Cp JOINT ALIGNMENTS AND LANE TIES**



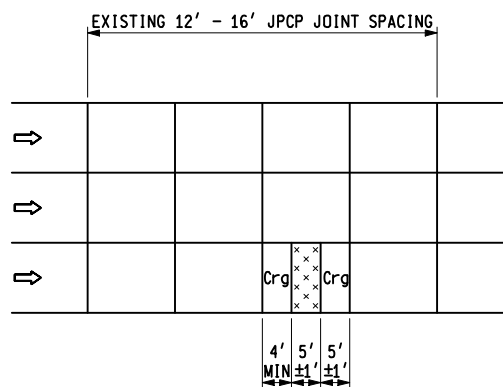
**FULL WIDTH MULTI-LANE REPAIRS
WITH OFFSET IN ONE LANE**



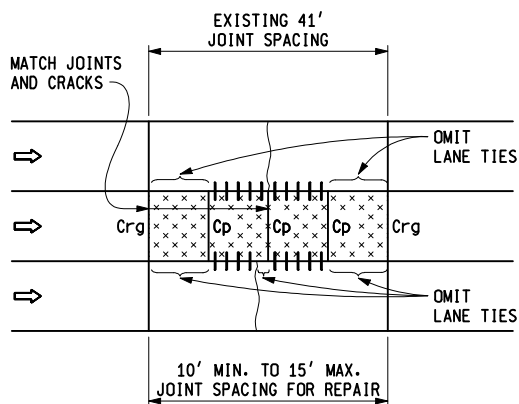
TWO CRACK PANEL REPAIR



JOINT PATCH ADJACENT TO WIDENING SLAB



**REPAIR OF 12' - 16' JPCP WITH
ONLY ONE MID-PANEL CRACK
(IF THE PANEL HAS MORE THAN ONE MID-PANEL CRACK REPLACE ENTIRE PANEL)
(SINGLE LANE OR FULL WIDTH REPAIR)**



MID PANEL CRACK REPAIR

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

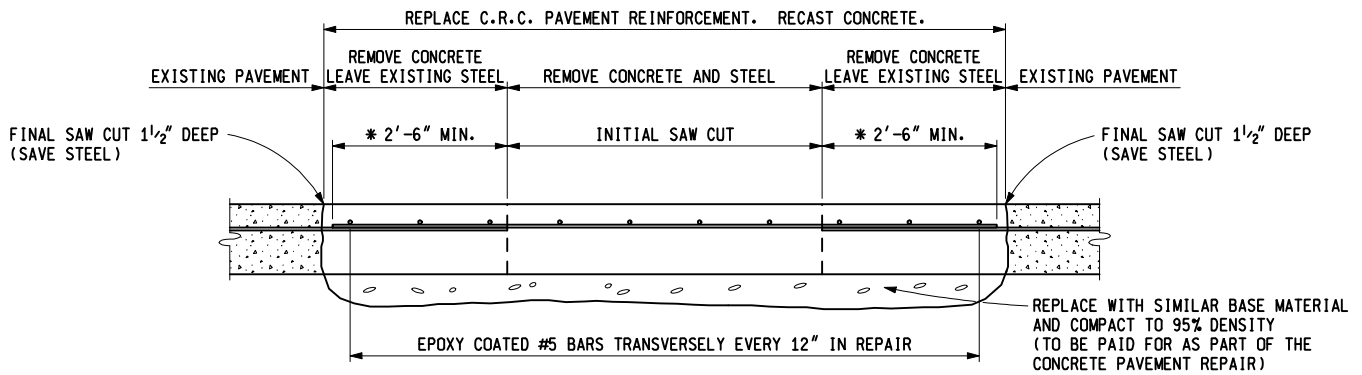
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

8-9-2010
PLAN DATE

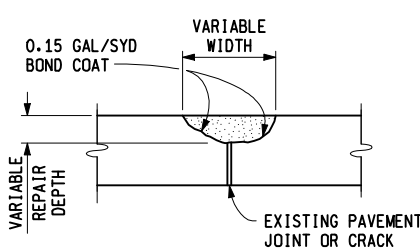
R-44-F

SHEET
4 OF 6



* NOTE: IF EXISTING REINFORCEMENT LAPS ARE ENCOUNTERED IN THIS AREA, FINAL SAW CUT MUST BE MOVED BACK TO PROVIDE MINIMUM 2'-6" LAP OF PAVEMENT REINFORCEMENT.

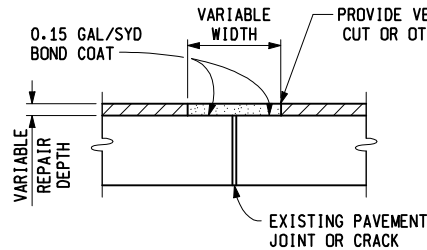
REPAIRING CONTINUOUSLY REINFORCED CONCRETE



CASE I

HMA REPAIR OF CONCRETE PAVEMENT

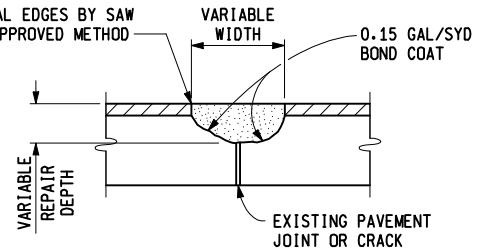
REMOVE LOOSE DETERIORATED CONCRETE. (NOT TO EXCEED PAVEMENT THICKNESS)



CASE II

HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE

REMOVE HMA OVERLAY TO CONCRETE SURFACE.



CASE III

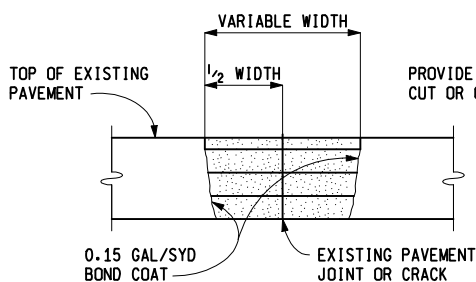
HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE

REMOVE HMA OVERLAY AND LOOSE DETERIORATED CONCRETE. (NOT TO EXCEED PAVEMENT THICKNESS)

FOR CASES I, II, & III, THE REMOVED MATERIAL SHALL BE REPLACED WITH A HMA TOP COURSE MIXTURE. THE HMA SHALL BE COMPACTED WITH A MACHINE VIBRATOR OR APPROVED ROLLER WITH BASE LIFT THICKNESSES NOT TO EXCEED 3" AND WITH THE TOP LIFT THICKNESS NOT TO EXCEED 2". THE FINAL SURFACE OF THE REPAIR SHALL BE FLUSH WITH THE EXISTING PAVEMENT SURFACE.

SURFACE REPAIR FOR JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)

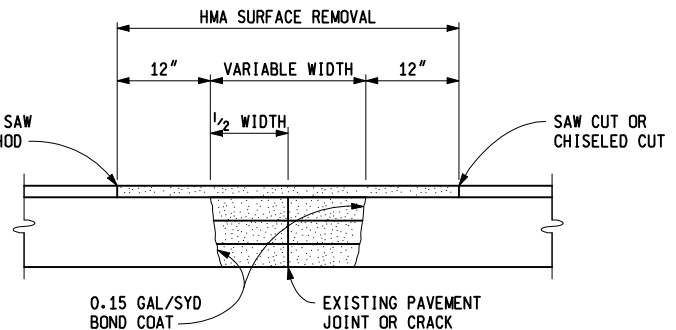
DETAIL
7



CASE IV

FULL DEPTH HMA REPAIR OF CONCRETE PAVEMENT

REMOVE THE DETERIORATED CONCRETE FULL DEPTH. COMPACT LOOSE EXISTING BASE. REPLACE AND COMPACT WITH HMA ANY LOST BASE.



CASE V

FULL DEPTH HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE

REMOVE EXISTING HMA DETERIORATED CONCRETE PAVEMENT FULL DEPTH. COMPACT LOOSE EXISTING BASE. REPLACE AND COMPACT WITH HMA ANY LOST BASE.

FOR CASES IV, & V, THE REMOVED MATERIAL SHALL BE REPLACED WITH A HMA TOP COURSE MIXTURE. THE HMA SHALL BE COMPACTED WITH A MACHINE VIBRATOR OR APPROVED ROLLER WITH BASE LIFT THICKNESSES NOT TO EXCEED 3" AND WITH THE TOP LIFT THICKNESS NOT TO EXCEED 2". THE FINAL SURFACE OF THE REPAIR SHALL BE FLUSH WITH THE EXISTING PAVEMENT SURFACE.

FULL DEPTH REPAIR FOR JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)

DETAIL
8

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

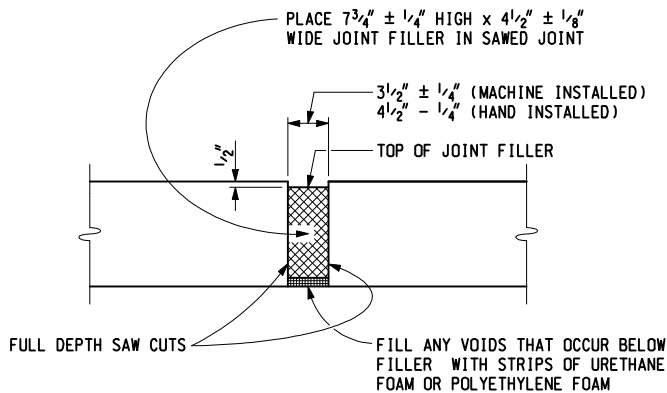
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

8-9-2010
PLAN DATE

R-44-F

SHEET
5 OF 6

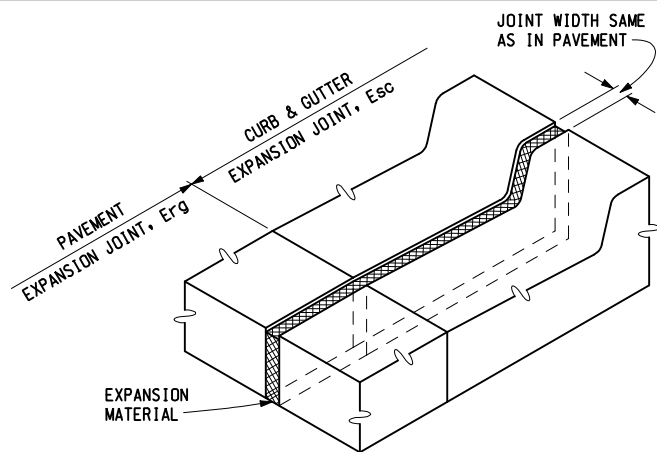


NOTES:

WHEN PRESSURE RELIEF JOINT IS TO BE CONSTRUCTED THROUGH CONCRETE SHOULDER, TRENCHING BELOW CONCRETE MAY BE NECESSARY TO ALLOW ROOM FOR $7\frac{1}{4}''$ FILLER.

PRESSURE RELIEF JOINT

THIS DETAIL ALSO APPLIES TO HMA SURFACED CONCRETE PAVEMENT REQUIRING PRESSURE RELIEF JOINTS



CURB, GUTTER, AND CURB FACE SHALL BE SAWED AS DEEP AS THE EXISTING PAVEMENT THICKNESS. THE REMAINING CONCRETE SHALL BE CHIPPED OUT AND EXPANSION MATERIAL OF SUFFICIENT THICKNESS SHALL BE PLACED IN SAWED JOINT TO FILL THE GAP AS DIRECTED BY THE ENGINEER.

EXPANSION JOINT, Esc

NOTES:

CONCRETE PAVEMENT REPAIRS (INCLUDING JOINT TYPES) OR PRESSURE RELIEF DETAILS SHALL BE AS SPECIFIED ON THE PLANS OR IN THE LOG OF PROJECT.

IF THE EXISTING PAVEMENT HAS A HMA SURFACE, THE SAW CUTS SHALL EXTEND THROUGH THE UNDERLYING PORTLAND CEMENT CONCRETE.

SAW OVERCUTS IN ADJACENT LANE, SHOULDER, RAMP, AND GUTTERS THAT WILL REMAIN IN PLACE, SHALL BE CLEANED AND THEN SEALED WITH HOT-POURED RUBBER-ASPHALT.

WHEN THE CONCRETE PAVEMENT REPAIR IS CONSTRUCTED IN PREPARATION FOR AN OVERLAY, Crg JOINT RESERVOIRS AND SEALANTS SHALL BE OMITTED AND EXPANSION JOINTS (Erg) SHALL HAVE THE FIBER JOINT FILLER KEPT FLUSH TO THE PAVEMENT SURFACE.

EXPANSION CAPS SHALL BE ACCORDING TO STANDARD PLAN R-40-SERIES.

TRANSVERSE CONTRACTION Cp AND EXPANSION E2 JOINTS SHALL BE ACCORDING TO STANDARD PLAN R-39P-SERIES.

DOWEL AND DEFORMED BARS USED IN Trg, Crg, AND Erg JOINTS SHALL BE EPOXY COATED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.

DOWEL BARS AND DEFORMED BARS FOR TIED JOINTS SHALL BE GROUTED INTO EXISTING PAVEMENT WITH A GROUT SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SOURCE GUIDE" UNDER ADHESIVE SYSTEMS FOR GROUTING DOWEL BARS AND TIE BARS FOR FULL-DEPTH CONCRETE PAVEMENT REPAIRS.

THE BACKER ROD SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE SAME TYPE JOINT SHALL EXTEND ACROSS ADJACENT LANE REPAIRS.

AFTER GROUTING IN-PLACE, RC-250 OR AN APPROVED BOND BREAKER SHALL BE APPLIED TO THAT PORTION OF Crg AND Erg DOWEL BARS THAT EXTEND INTO THE CAST CONCRETE.

REPAIRED CONCRETE PAVEMENTS REQUIRE THAT 1" OF Erg EXPANSION JOINTS BE DISTRIBUTED THROUGHOUT A GIVEN 1000' SECTION.

WHERE THERE ARE NO REPAIR LOCATIONS WITHIN A 1000' LENGTH, NO EXPANSION SPACE WILL BE PROVIDED.

EXPANSION JOINT FILLER SHALL EXTEND THE FULL DEPTH OF THE REPAIR AND BE FLUSH WITH THE EXISTING PAVEMENT SURFACE. PRIOR TO SEALING, THE JOINT FIBER FILLER AT THE PAVEMENT SURFACE SHALL BE REMOVED BY CUTTING 1" WIDE AND 1 1/2" DEEP TO PERMIT THE PLACEMENT OF THE HOT-POURED RUBBER ASPHALT SEALANT. HOLES IN EXPANSION JOINT FILLER SHALL BE 1 1/2" MAXIMUM DIAMETER AND SHALL BE ALIGNED TO FIT DRILLED HOLES IN CONCRETE.

Erg JOINTS SHALL BE CONSTRUCTED ONLY WHEN THEY EXTEND ACROSS ALL LANES, RAMPS, OR SHOULDERS.

WHEN Erg JOINTS ARE PLACED ADJACENT TO CONCRETE CURB AND GUTTER THAT IS NOT REQUIRED TO BE REMOVED, AN Esc JOINT SHALL BE CONSTRUCTED IN THE CURB AND GUTTER.

JOINT RESERVOIRS FOR THE HOT-POURED RUBBER-ASPHALT SEALANT SHALL BE ABRASIVE BLAST CLEANED, FOLLOWED BY A FINAL CLEANING OF OIL-FREE COMPRESSED AIR PRIOR TO SEALING.

LANE TIES (TO ADJACENT PAVEMENT LANE, WHEN REQUIRED) SHALL BE SPACED ACCORDING TO STANDARD PLAN R-41-SERIES, EXCEPT THAT THE FIRST LANE TIE ADJACENT TO A TRANSVERSE JOINT SHALL BE INSTALLED AT A DISTANCE OF 1'-8" FROM THE JOINT. WHEN BOTH SIDES OF A LONGITUDINAL JOINT ARE POURED INTEGRALLY, LANE TIES SHALL BE STRAIGHT DEFORMED EPOXY COATED BARS CAST-IN-PLACE AS SPECIFIED ON STANDARD PLAN R-41-SERIES. WHEN ADJACENT LANES ARE CAST SEPARATELY, LANE TIES SHALL BE GROUTED-IN-PLACE AS SPECIFIED ON THIS PLAN. THE GROUT SHALL BE SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SOURCE GUIDE", UNDER LANE TIES.

THE MONTH AND YEAR OF CASTING AND STATION NUMBER (IF REMOVED) SHALL BE STENCILED ON EACH CONCRETE REPAIR.

ALL REPAIRS WILL BE JOINTED PLAIN CONCRETE PAVEMENT.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

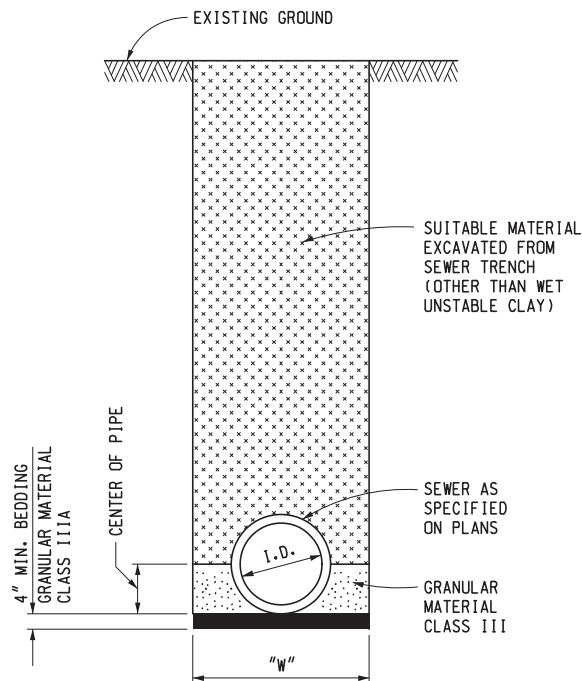
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

8-9-2010
PLAN DATE

R-44-F

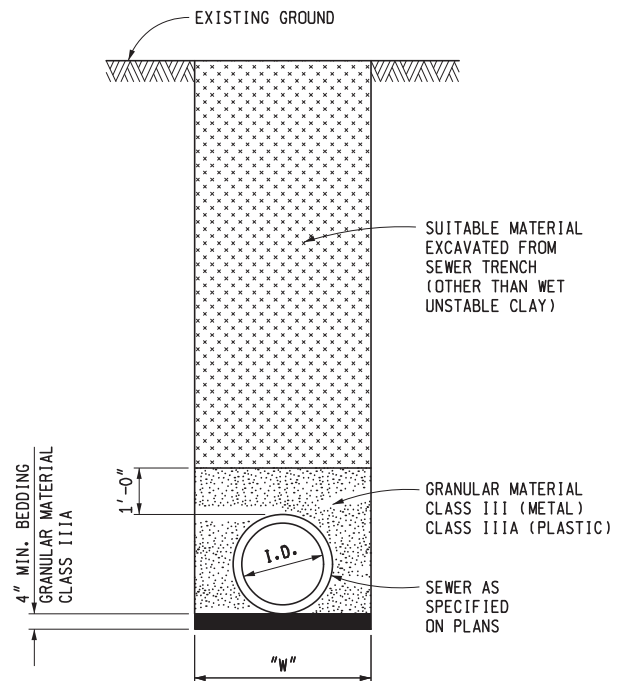
SHEET
6 OF 6



SEWER NOT UNDER ROADBED CONCRETE

NOTE: FOR "W" SEE NOTES ON SHEET 5

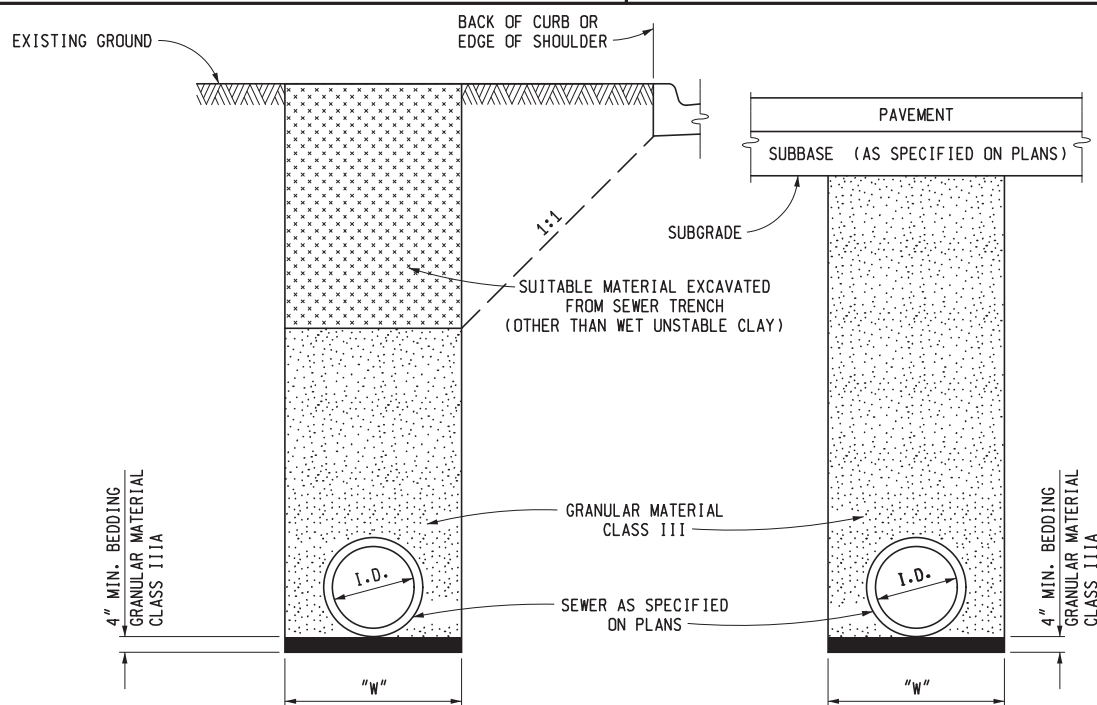
A1



SEWER NOT UNDER ROADBED METAL & PLASTIC

NOTE: FOR "W" SEE NOTES ON SHEET 5

A2



SEWER UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED CONCRETE & METAL PIPE

B1



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: Kimberly Avery
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: Bradley C. Wieferich
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

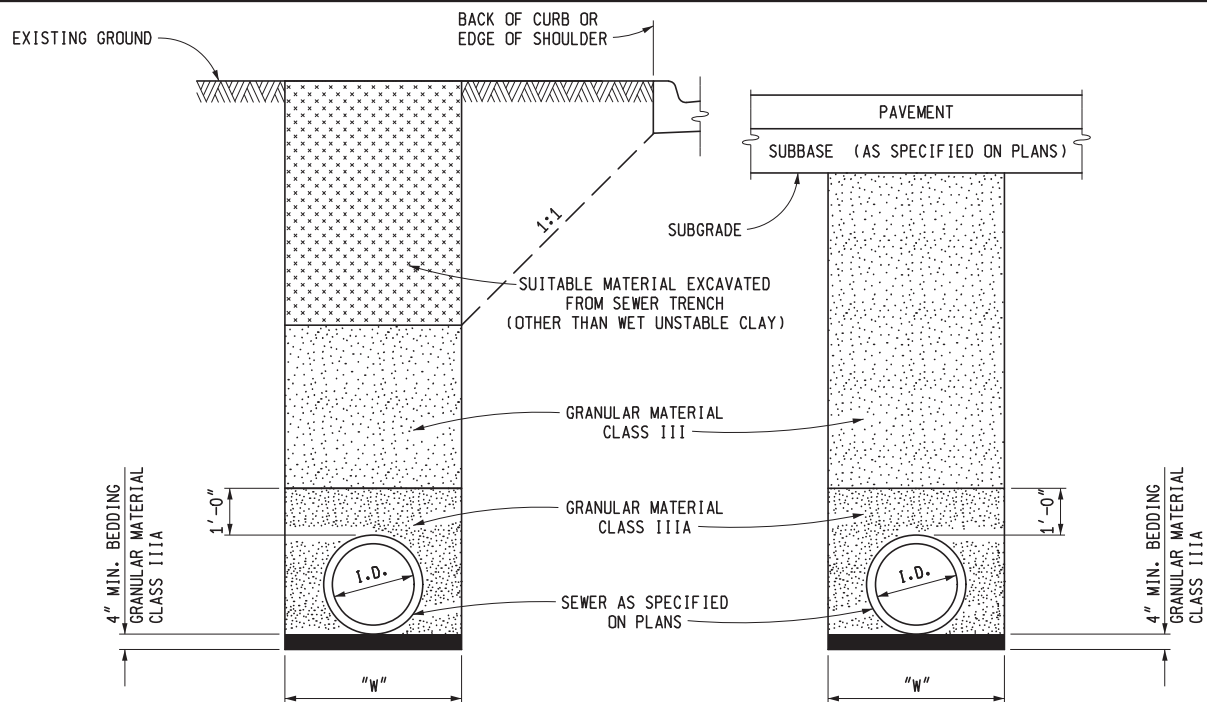
UTILITY TRENCHES

7-25-2017
F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

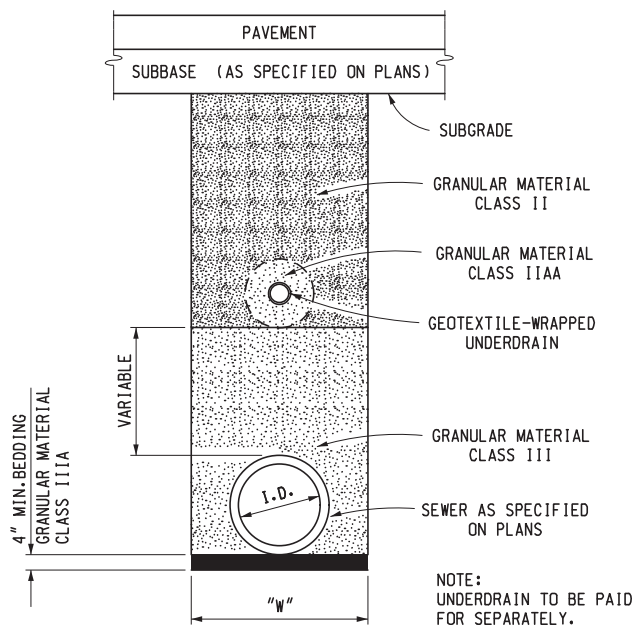
R-83-C

SHEET
1 OF 5



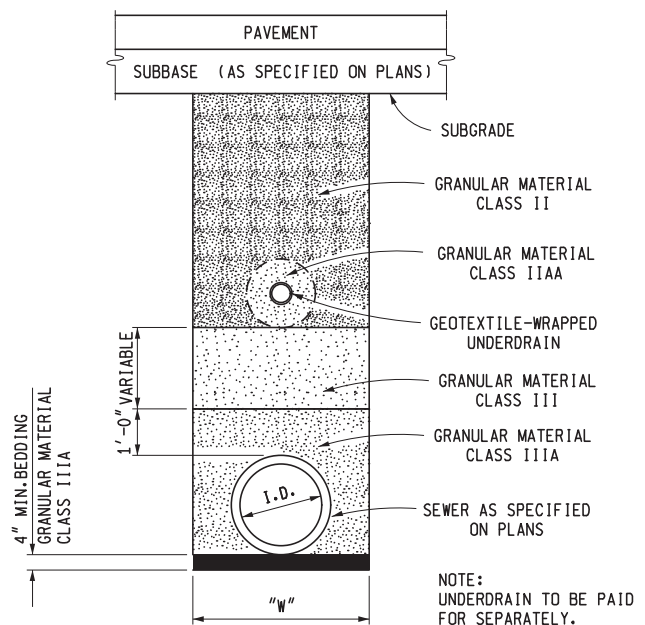
**SEWER UNDER ROADBED OR
WITHIN INFLUENCE OF ROADBED**
PLASTIC PIPE

B2



SEWER WITH UNDERDRAIN UNDER ROADBED
CONCRETE & METAL PIPE

C1



SEWER WITH UNDERDRAIN UNDER ROADBED
PLASTIC PIPE

C2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

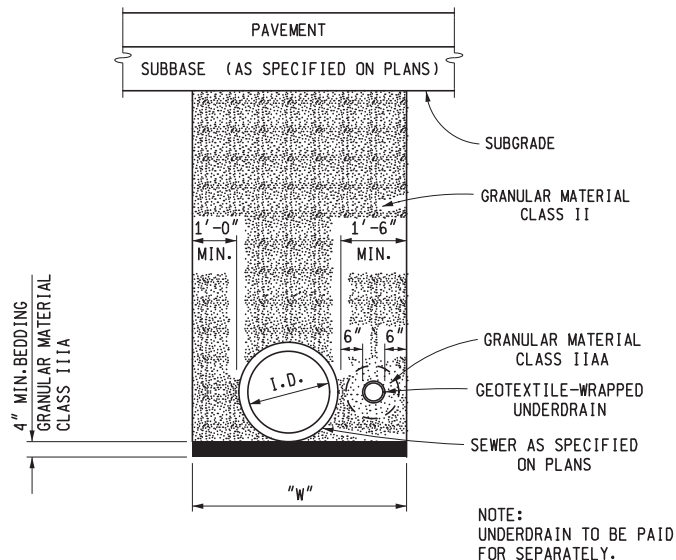
UTILITY TRENCHES

7-25-2017
F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

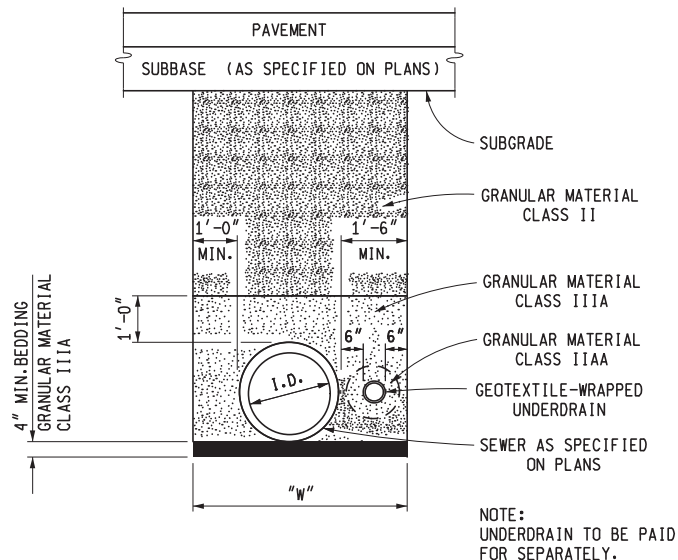
R-83-C

SHEET
2 OF 5



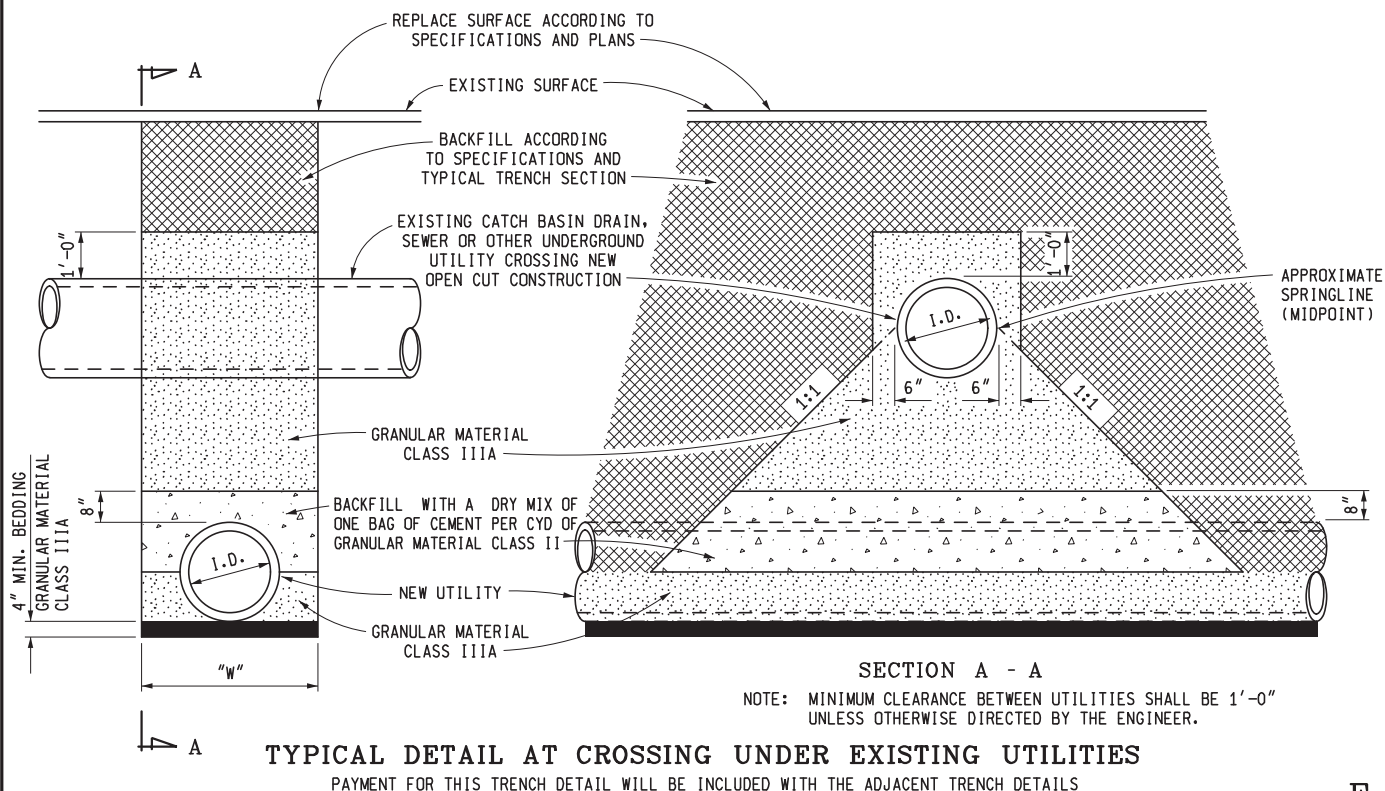
**SEWER WITH UNDERDRAIN UNDER ROADBED
CONCRETE & METAL PIPE
(FOR SHALLOW SEWERS)**

D1



**SEWER WITH UNDERDRAIN UNDER ROADBED
PLASTIC PIPE
(FOR SHALLOW SEWERS)**

D2



E

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

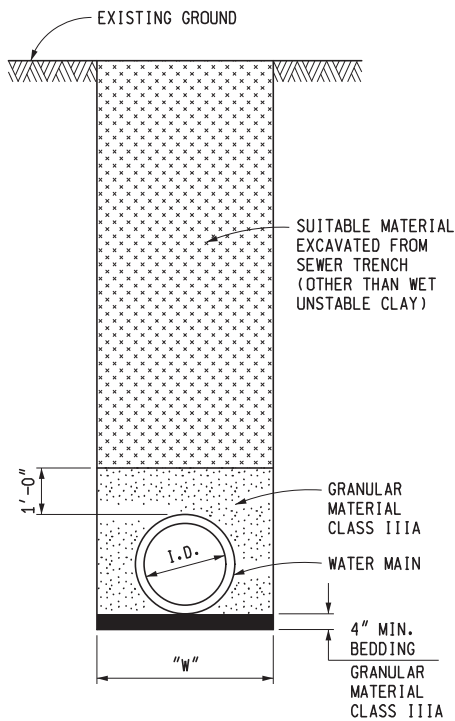
UTILITY TRENCHES

7-25-2017
F.H.W.A. APPROVAL

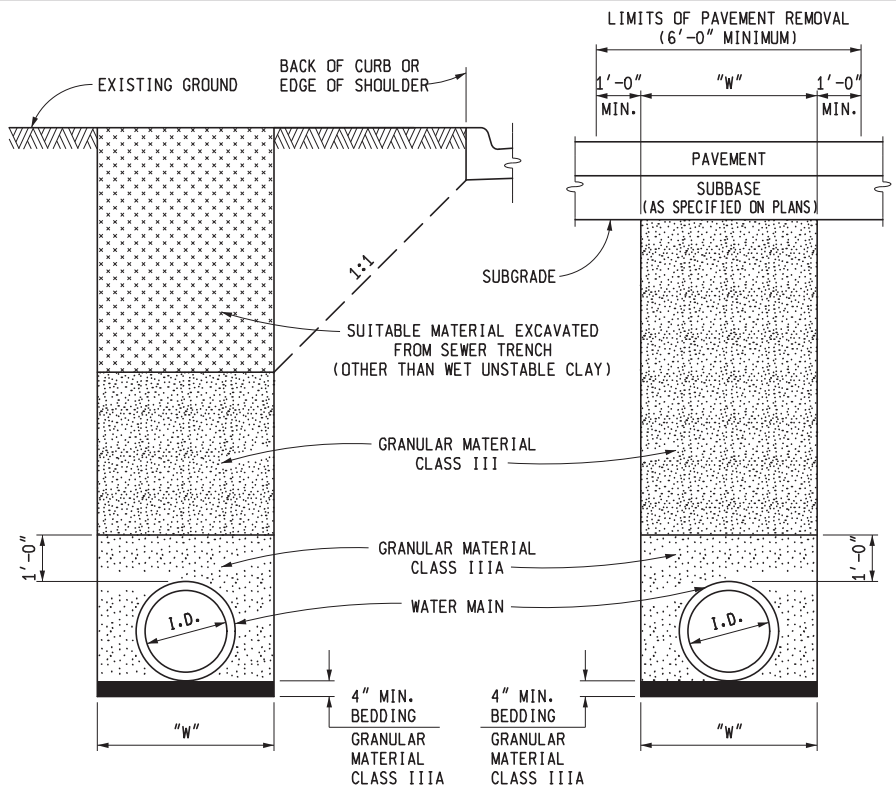
2-8-2016
PLAN DATE

R-83-C

SHEET
3 OF 5

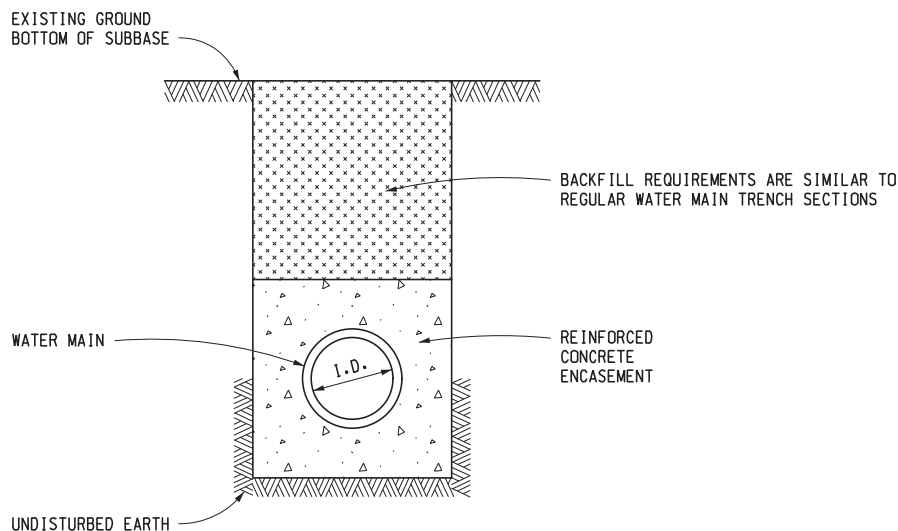


**WATER MAINS
NOT UNDER ROADBED** F



NOTE: WHEN WATER MAIN IS PLACED IN PROPOSED ROADBED AREA, IT SHALL BE BACKFILLED WITH SELECTED EXCAVATION MATERIAL ABOVE FUTURE SUBGRADE TO EXISTING GROUND LINE.

**WATER MAINS UNDER ROADBED
OR WITHIN INFLUENCE OF ROADBED** G



NOTE:
REINFORCEMENT SHALL BE AS SPECIFIED ON PLANS.

WATER MAINS IN REINFORCED CONCRETE ENCASEMENT H

**REQUIRED ENCASEMENT
SIZE FOR RESPECTIVE
PIPE SIZES**

DIAMETER OF PIPE	ENCASEMENT SIZE AND TRENCH WIDTH
6" - 12"	3'-0"
16"	3'-6"
24"	4'-6"
30"	5'-0"
36"	5'-6"
42"	6'-0"
48"	7'-0"
54"	7'-6"
60"	8'-0"
66"	8'-6"
72"	9'-0"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

UTILITY TRENCHES

7-25-2017
F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

R-83-C

SHEET
4 OF 5

NOTES:

BACKFILLING SHALL BE ACCORDING TO THE STANDARD SPECIFICATION.

SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.

THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:

I.D. PIPE SIZE (INCHES)	LESS THAN 18	21	24	30	36
"W" TRENCH WIDTH (FEET)	3.0	3.5	4.0	5.0	6.0

I.D. PIPE SIZE (INCHES)	42	48	54	60	66	72
"W" TRENCH WIDTH (FEET)	7.0	8.0	9.5	10.0	10.5	11.0

I.D. PIPE SIZE (INCHES)	78	84	90	96	102	108
"W" TRENCH WIDTH (FEET)	11.5	12.0	12.5	13.0	13.5	14.0

ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (6'-0" MINIMUM).

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

UTILITY TRENCHES

7-25-2017
F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

R-83-C

SHEET
5 OF 5