

CITY OF ANN ARBOR  
INVITATION TO BID



2020 Bridge Capital Preventative Maintenance Repairs

ITB No. 4647

Due Date: Wednesday, November 18, 2020, 2:00 p.m. (Local Time)

Public Services Area  
Engineering

Issued By:

City of Ann Arbor  
Procurement Unit  
301 E. Huron Street  
Ann Arbor, MI 48104

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**Approved EGLE Permit No. WRP018786 v.1 and Approved Plans**

**ATTACHMENTS**

- City of Ann Arbor Prevailing Wage Declaration Form*
- City of Ann Arbor Living Wage Forms*
- City of Ann Arbor Vendor Conflict of Interest Disclosure Form*
- City of Ann Arbor Non-Discrimination Ordinance Declaration Form and Notice*

## **NOTICE OF PRE-BID CONFERENCE**

A pre-bid conference for this project will not be held for this project. Please submit any questions that you may have regarding this project via e-mail as directed elsewhere in the contract documents.

Answers that change or substantially clarify the Invitation to Bid will be affirmed in an addendum.

# INSTRUCTIONS TO BIDDERS

## General

Work to be done under this Contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents. All work to be done under this Contract is located in or near the City of Ann Arbor.

Any Bid which does not conform fully to these instructions may be rejected.

## Preparation of Bids

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on the "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

## Questions or Clarifications / Designated City Contacts

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on or before **Monday, November 9, 2020 at 2:00 p.m.** and should be addressed as follows:

Specification/Scope of Work questions emailed to **[mnearing@a2gov.org](mailto:mnearing@a2gov.org)**  
Bid Process and Compliance questions emailed to **[cspencer@a2gov.org](mailto:cspencer@a2gov.org)**

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of **Michael G. Nearing, P.E., Senior Project Manager**, **[mnearing@a2gov.org](mailto:mnearing@a2gov.org)**, after discovery as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

## Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) [www.mitn.info](http://www.mitn.info) and/or City of Ann Arbor web site [www.A2gov.org](http://www.A2gov.org) for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall

not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

## Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **Wednesday, November 18, 2020 at 2:00 p.m. (local time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copy in a sealed envelope clearly marked: **ITB No. 4647 – 2020 Bridge Capital Preventative Maintenance Repairs**.

### **Bids must be addressed and delivered to:**

City of Ann Arbor  
Procurement Unit,  
c/o Customer Services, 1<sup>st</sup> Floor  
301 East Huron Street  
Ann Arbor, MI 48104

All Bids received on or before the Due Date will be publicly opened and recorded immediately. No immediate decisions are rendered.

**The following forms provided within this ITB Document should be included in submitted bids. If not submitted at the time of bid, they must be provided and be acceptable to the City prior to submittal of the contract for award by the Ann Arbor City Council:**

- **City of Ann Arbor Prevailing Wage Declaration of Compliance**
- **City of Ann Arbor Living Wage Ordinance Declaration of Compliance**
- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

**Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.**

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/glass enclosed entrance of City Hall which is accessible to the public at all hours. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

## Award

The City intends to award a Contract(s) to the lowest responsive and responsible Bidder(s). On multi-divisional contracts, separate divisions may be awarded to separate Bidders. The City may also utilize alternatives offered in the Bid Forms, if any, to determine the lowest responsive and

responsible Bidder on each division, and award multiple divisions to a single Bidder, so that the lowest total cost is achieved for the City. For unit price bids, the Contract will be awarded based upon the unit prices and the lump sum prices stated by the bidder for the work items specified in the bid documents, with consideration given to any alternates selected by the City. If the City determines that the unit price for any item is materially different for the work item bid than either other bidders or the general market, the City, in its sole discretion, in addition to any other right it may have, may reject the bid as not responsible or non-conforming.

The acceptability of major subcontractors will be considered in determining if a Bidder is responsible. In comparing Bids, the City will give consideration to alternate Bids for items listed in the bid forms. All key staff and subcontractors are subject to the approval by the City.

## Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on [www.MITN.info](http://www.MITN.info) and obtain an official Bid. Bidders do not need to be shown on the plan holders list provided by MITN to be considered an official plan holder.

## Bid Security

Each bid must be accompanied by a certified check, or Bid Bond by a surety licensed and authorized to do business within the State of Michigan, in the amount of 5% of the total of the bid price.

## Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of sixty (60) days.

## Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-2, Article III of the Contract. If these time requirements cannot be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

## Liquidated Damages

A liquidated damages clause, as given on page C-2, Article III of the Contract, provides that the Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

Liquidated damages clauses, as given in the General Conditions, provide further that the City shall be entitled to impose and recover liquidated damages for breach of the obligations under Chapter 112 of the City Code.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

## Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Section 5, beginning at page GC-2 shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

## Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages and for payment of a "living wage" to employees providing service to the City under this contract. The successful bidder and its subcontractors must comply with all applicable requirements and provide proof of compliance.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

For laborers whose wage level are subject to federal, state and/or local prevailing wage law the appropriate Davis-Bacon wage rate classification is identified based upon the work including within this contract. **The wage determination(s) current on the date 10 days before bids are due shall apply to this contract.** The U.S. Department of Labor (DOL) has provided explanations to assist with classification in the following resource link: [beta.SAM.gov](http://beta.SAM.gov).

For the purposes of this ITB the Construction Type of **Highway** will apply.

## Conflict Of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

## Major Subcontractors

The Bidder shall identify on Bid Form Section 4 each major subcontractor it expects to engage for this Contract if the work to be subcontracted is 15% or more of the bid sum or over \$50,000, whichever is less. The Bidder also shall identify the work to be subcontracted to each major subcontractor. The Bidder shall not change or replace a subcontractor without approval by the City.

## Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred,

suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

## Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

## Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

*Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by any prospective bidder to initiate contact with anyone other than the Designated City Contacts provided herein that the bidder believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.*

## Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

## Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

## Idlefree Ordinance

The City of Ann Arbor adopted an idling reduction Ordinance that goes into effect July 1, 2017. The full text of the ordinance (including exemptions) can be found at: [www.a2gov.org/idlefree](http://www.a2gov.org/idlefree).

Under the ordinance, No Operator of a Commercial Vehicle shall cause or permit the Commercial Vehicle to Idle:

- (a) For any period of time while the Commercial Vehicle is unoccupied; or
- (b) For more than 5 minutes in any 60-minute period while the Commercial Vehicle is occupied.

In addition, generators and other internal combustion engines are covered

- (1) Excluding Motor Vehicle engines, no internal combustion engine shall be operated except



when it is providing power or electrical energy to equipment or a tool that is actively in use.

## **Environmental Commitment**

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

The City encourages potential vendors to bring forward emerging and progressive products and services that are best suited to the City's environmental principles.

## INVITATION TO BID

City of Ann Arbor  
Guy C. Larcom Municipal Building  
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements and Declaration of Compliance Form, Living Wage requirements and Declaration of Compliance Form, Prevailing Wage requirements and Declaration of Compliance Form, Vendor Conflict of Interest Form, Notice of Pre-Bid Conference, Instructions to Bidders, Bid, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans (if applicable) and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it has extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this Bid is one part.

In accordance with these bid documents, and Addenda numbered \_\_\_\_\_, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:320 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code provisions cited. Bidder certifies that the statements contained in the City Prevailing Wage and Living Wage Declaration of Compliance Forms are true and correct. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Bid shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Bid, or if this Bid is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2020.

\_\_\_\_\_  
Bidder's Name

\_\_\_\_\_  
Authorized Signature of Bidder

\_\_\_\_\_  
Official Address

\_\_\_\_\_  
(Print Name of Signer Above)

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address for Award Notice

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of \_\_\_\_\_, for whom \_\_\_\_\_, bearing the office title of \_\_\_\_\_, whose signature is affixed to this Bid, is authorized to execute contracts.

**NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority**

• A limited liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_ (initial here)

**Authorized Official**

\_\_\_\_\_ **Date** \_\_\_\_\_, 2020

(Print) Name \_\_\_\_\_ Title \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Email \_\_\_\_\_

**BID FORM**  
**Section 1 - Schedule of Prices**

Company: \_\_\_\_\_

Project: 2020 Bridge Capital Preventative Maintenance Repairs

XXXXXXX Denotes an Item of Work to be performed in accordance with the 2012 MDOT Standard Specifications for Construction  
 XXX7XXX Denotes an Item of Work to be performed in accordance with the project Detailed Specifications

ITB No. 4674

City File No. 2020-025

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
1047051	Certified Payroll Compliance and Reporting	LSUM	1	\$ _____	\$ _____
1507051	General Conditions, Max. \$136,300	LSUM	1	\$ _____	\$ _____
2010001	Clearing	Ac	0.1	\$ _____	\$ _____
2040020	Curb and Gutter, Rem	Ft	287	\$ _____	\$ _____
2040025	Fence, Rem	Ft	80	\$ _____	\$ _____
2040050	Pavt, Rem	Syd	400	\$ _____	\$ _____
2040055	Sidewalk, Rem	Syd	166	\$ _____	\$ _____
2047050	Exploratory Investigation, Approach Sidewalk	Ea	2	\$ _____	\$ _____
2080044	Erosion Control, Turbidity Curtain, Deep	Ft	120	\$ _____	\$ _____
2080044	Erosion Control, Turbidity Curtain, Shallow	Ft	70	\$ _____	\$ _____
3017021	Subbase, CIP, Class II Granular Material, Modified	Cyd	20	\$ _____	\$ _____
3027021	Aggregate Base, CIP, Variable Thickness	Cyd	47	\$ _____	\$ _____
4010012	Culv End Sect, 12 inch	Ea	1	\$ _____	\$ _____
4027001	Sewer, CI IV, 12 Inch, Tr Det A, Modified	Ft	55	\$ _____	\$ _____
4027001	Sewer, CI IV, 12 Inch, Tr Det B, Modified	Ft	25	\$ _____	\$ _____
4037050	Dr Structure Cover, Type K, Special	Ea	2	\$ _____	\$ _____
4037050	Dr Structure, Inlet-Junction Chamber	Ea	1	\$ _____	\$ _____
4037050	Dr Structure, Single Inlet	Ea	1	\$ _____	\$ _____
5010703	HMA, LVSP	Ton	102	\$ _____	\$ _____
5027001	Overband Crack Fill	Ft	428	\$ _____	\$ _____
6027001	E3 Joint Replacement	Ft	432	\$ _____	\$ _____
7060001	Bridge Ltg, Furn and Rem	LSUM	1	\$ _____	\$ _____
7060002	Bridge Ltg, Oper and Maintain	LSUM	1	\$ _____	\$ _____
7060092	Reinforcement, Steel, Epoxy Coated	Lb	8172	\$ _____	\$ _____
7060111	Superstructure Conc, Form, Finish, and Cure	LSUM	1	\$ _____	\$ _____
7060112	Superstructure Conc, Form, Finish, and Cure, Night Casting	LSUM	1	\$ _____	\$ _____
7067021	Superstructure Conc, Modified	Cyd	16	\$ _____	\$ _____
7067021	Superstructure Conc, Night Casting, Modified	Cyd	33	\$ _____	\$ _____
7107001	Joint Waterproofing, Special	Ft	48	\$ _____	\$ _____
7107011	Conc Surface Coating	Syd	2033	\$ _____	\$ _____
7117001	Bridge Railing, Aesthetic Parapet Tube, Modified	Ft	60	\$ _____	\$ _____
7120003	Hand Chipping, Shallow	Syd	106	\$ _____	\$ _____
7120004	Hand Chipping, Deep	Syd	201	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>				\$ _____	

**BID FORM**  
**Section 1 - Schedule of Prices**

Company: \_\_\_\_\_

Project: 2020 Bridge Capital Preventative Maintenance Repairs

XXXXXXX Denotes an Item of Work to be performed in accordance with the 2012 MDOT Standard Specifications for Construction  
 XXX7XXX Denotes an Item of Work to be performed in accordance with the project Detailed Specifications

ITB No. 4674

City File No. 2020-025

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
7120007	Hand Chipping, Other Than Deck	Cft	258	\$ _____	\$ _____
7120017	Patch, Forming	Sft	574	\$ _____	\$ _____
7127011	Epoxy Ovly	Syd	2288	\$ _____	\$ _____
7120041	Bolt, Adhesive Anchored, 5/8 inch	Ea	24	\$ _____	\$ _____
7127051	Structures, Rehabilitation, Rem Portions (Str 11081)	LSUM	1	\$ _____	\$ _____
7120112	Patching Conc, C-L	Cyd	101	\$ _____	\$ _____
7127010	Hand Chipping, Special	Sft	100	\$ _____	\$ _____
7127011	Healer/Sealer	Syd	3081	\$ _____	\$ _____
7127020	Beam End Repair, Latex Modified Conc	Cft	10	\$ _____	\$ _____
7127050	Conc Column Cap, Remove and Reset	Ea	2	\$ _____	\$ _____
7127050	Mechanical Anchor, Adjust, Complete	Ea	400	\$ _____	\$ _____
7137050	Bridge Railing, End Post, Galvanized	Ea	6	\$ _____	\$ _____
7137051	Lighting Conduit, Attach (Str 11081)	LSUM	1	\$ _____	\$ _____
8027001	Curb and Gutter, Conc, Det F4, Special	Ft	275	\$ _____	\$ _____
8037010	Detectable Warning Tiles	Sft	10	\$ _____	\$ _____
8037010	Sidewalk, Concrete, 6 inch, Special	Sft	1583	\$ _____	\$ _____
8070012	Guardrail, Curved, Type MGS-8	Ft	32	\$ _____	\$ _____
8070130	Guardrail Anch, Bridge, Det M1	Ea	1	\$ _____	\$ _____
8077050	Guardrail Anch, Bridge, Det M1, Modified	Ea	1	\$ _____	\$ _____
8077050	Guardrail Post, Hand Dug	Ea	7	\$ _____	\$ _____
8087001	Fence, Chain Link, 72 inch, Vinyl-Coated	Ft	50	\$ _____	\$ _____
8110094	Pavt Mrkg, Polyurea, 6 inch, White	Ft	1540	\$ _____	\$ _____
8110095	Pavt Mrkg, Polyurea, 4 inch, Yellow	Ft	970	\$ _____	\$ _____
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	35	\$ _____	\$ _____
8120013	Barricade, Type III, High Intensity, Double Sided, Oper	Ea	41	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>				\$ _____	

**BID FORM**  
**Section 1 - Schedule of Prices**

Company: \_\_\_\_\_

Project: 2020 Bridge Capital Preventative Maintenance Repairs

XXXXXXX Denotes an Item of Work to be performed in accordance with the 2012 MDOT Standard Specifications for Construction  
 XXX7XXX Denotes an Item of Work to be performed in accordance with the project Detailed Specifications

ITB No. 4674

City File No. 2020-025

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total</u>
8120026	Pedestrian Type II Barricade, Temp	Ea	20	\$ _____	\$ _____
8120027	Pedestrian Type II Channelizer, Temp	Ft	1837	\$ _____	\$ _____
8120030	Channelizing Device, 42 inch, Furn	Ea	166	\$ _____	\$ _____
8120030	Channelizing Device, 42 inch, Oper	Ea	166	\$ _____	\$ _____
8120140	Lighted Arrow, Type C, Furn	Ea	3	\$ _____	\$ _____
8120141	Lighted Arrow, Type C, Oper	Ea	3	\$ _____	\$ _____
8120170	Minor Traffic Devices, Max. \$20,000	LSUM	1	\$ _____	\$ _____
8120210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Ft	200	\$ _____	\$ _____
8120211	Pavt Mrkg, Longit, Greater than 6 inch Width, Rem	Ft	500	\$ _____	\$ _____
8120245	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	Ft	940	\$ _____	\$ _____
8120246	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	Ft	950	\$ _____	\$ _____
8120310	Sign Cover	Ea	20	\$ _____	\$ _____
8120320	Sign Cover, Type 1	Ea	4	\$ _____	\$ _____
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	1096	\$ _____	\$ _____
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	1096	\$ _____	\$ _____
8120352	Sign Type B, Temp, Prismatic, Special, Furn	Sft	59	\$ _____	\$ _____
8120353	Sign Type B, Temp, Prismatic, Special, Oper	Sft	59	\$ _____	\$ _____
8120370	Traf Regulator Control	LSUM	1	\$ _____	\$ _____
8137011	Riprap, Heavy, Modified	Syd	162	\$ _____	\$ _____
8167011	Hydroseeding	Syd	275	\$ _____	\$ _____
8167011	Topsoil Surface, 4 inch	Syd	275	\$ _____	\$ _____
TOTAL THIS PAGE				\$ _____	
TOTAL FROM PAGE BF-1:				\$ _____	
TOTAL FROM PAGE BF-2:				\$ _____	
<b>TOTAL BASE BID</b>				\$ _____	

# BID FORM

## Section 2 – Material, Equipment and Environmental Alternates

The Base Bid proposal price shall include materials and equipment selected from the designated items and manufacturers listed in the bidding documents. This is done to establish uniformity in bidding and to establish standards of quality for the items named.

If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered only as a negotiated change in Contract Sum.

If an environmental alternative is bid the City strongly encourages bidders to provide recent examples of product testing and previous successful use for the City to properly evaluate the environmental alternative. Testing data from independent accredited organizations are strongly preferred.

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
--------------------	--------------------	--------------------------

If the Bidder does not suggest any material or equipment alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any material or equipment alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_



# BID FORM

## Section 3 - Time Alternate

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-2, it is requested to stipulate below its proposed time for performance of the work. Consideration will be given to time in evaluating bids.

If the Bidder does not suggest any time alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any time alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_

# BID FORM

## Section 4 - Major Subcontractors

For purposes of this Contract, a Subcontractor is anyone (other than the Contractor) who performs work (other than or in addition to the furnishing of materials, plans or equipment) at or about the construction site, directly or indirectly for or on behalf of the Contractor (and whether or not in privity of Contract with the Contractor), but shall not include any individual who furnishes merely the individual's own personal labor or services.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision to Section 4 of the General Conditions covering subcontractor's employees who perform work on this contract.

For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified:

<u>Subcontractor (Name and Address)</u>	<u>Work</u>	<u>Amount</u>
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If the Bidder does not expect to engage any major subcontractor, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT expect to engage any major subcontractor to perform work under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_



# BID FORM

## Section 6 – Contractor Information and Responsible Contractor Criteria

*Backup documentation may be requested at the sole discretion of the City to validate all of the responses provided herein by bidders. False statements by bidders to any of the criteria provided herein will result in the bid being considered non-responsive and will not be considered for award.*

*Failure to provide responses to all questions may result in being deemed non-responsive.*

*Attach additional pages as needed if space below is insufficient.*

Pursuant to Sec 1:312(20) of the City Code which sets forth requirements of a responsible bidder, Bidder is required to submit the following:

1. Organization Name: \_\_\_\_\_

Social Security or Federal Employer I.D. #: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Type of Organization (circle one below):

Individual          Partnership          Corporation          Joint Venture          Other

If "Other" please provide details on the organization:

\_\_\_\_\_

Year organization established: \_\_\_\_\_

2. Current owners/principals/members/managing members/partners of the organization:

\_\_\_\_\_

3. Assumed Names, "doing business as" d/b/a, and/or former organization names(s), if applicable: \_\_\_\_\_

Explanation of any business name changes:

\_\_\_\_\_

4. If applicable, please provide a list of all bidder's litigation and arbitrations currently pending and within the past five years, including an explanation of each (parties, court/forum, legal claims, damages sought, and resolution).

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5. Qualifications of management and supervisory personnel to be assigned by the bidder:

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6. State and local licenses and license numbers held by the bidder:

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7. Will all subcontractors, employees and other individuals working on the construction project maintain current applicable licenses required by law for all licensed occupations and professions?

Yes

No

8. Will contractors, subcontractors, employees, and other individuals working on the construction project be misclassified by bidder as independent contractors in violation of state or federal law?

Yes

No

9. Submit a statement as to what percentage of your work force resides within the City of Ann Arbor, and what percentage resides in Washtenaw County, Michigan, and the same information for any major subcontractors.

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10. Submit documentation as to employee pay rates.

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11. Submit a statement whether bidder provides health insurance, pension or other retirement benefits, paid leave, or other benefits to its employees.

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12. Submit a statement explaining bidder's Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses along with supporting documentation or other evidence.

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13. Has bidder had any violations of state, federal or local laws or regulations, including OSHA or MIOSHA violations, state or federal prevailing wage laws, wage and hour laws, worker's compensation or unemployment compensation laws, rules or regulations, issued to or against the bidder within the past five years?

Yes

No

If you answered "yes" to the question above, for each violation provide an explanation of the nature of the violation, the agency involved, a violation or reference number, any other individual(s) or party(ies) involved, and the status or outcome and resolution.

14. Does bidder have an existing Fitness for Duty Program (drugs and alcohol testing) of each employee working on the proposed jobsite?

Yes

No

15. By attachment, please provide the following:

- Disclosure of any debarment by any federal, state or local governmental unit and/or findings of non-responsibility or non-compliance with respect to any public or private construction project performed by the bidder. Proof of insurance, including certificates of insurance, confirming existence and amount of coverage for liability, property damage, workers compensation, and any other insurances required by the proposed contract documents.

16. Does bidder have an on-going MIOSHA-approved safety-training program for employees to be used on the proposed job site?

Yes

No

17. Does bidder have evidence of worker's compensation Experience Modification Rating ("EMR")?

Yes

No

EMR = \_\_\_\_\_

18. Can bidder provide a ratio of masters and journeypersons to apprentices proposed to be used on the construction project job site, documentation of master or journeyperson certification or status and the source for same, and if not, the qualifications of employees who will be assigned to work on the project?

Yes

No

If, yes, Ratio = \_\_\_\_\_

19. Can bidder provide documentation that it participates in a Registered Apprenticeship Program (RAP) that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the Office of Apprenticeship?

Yes

No

If bidder answered "yes" to the question above and is selected for this project, bidder will be required to submit the RAP to the City.

If bidder answered "no" to the question above, please provide details on how your organization assess the skills and qualifications of any employees who do not have master or journeyperson certification or status, or are not participants in a Registered Apprenticeship Program identified above.

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20. Will bidder comply with all applicable state and federal laws and visa requirements regarding the hiring of non-US citizens, and disclosure of any work visas sought or obtained by the bidder, any of the bidder's subcontractors, or any of the bidder's employees or independent contractors, in order to perform any portion of the project?

Yes

No

21. Can bidder provide audited financial information current within the past twelve (12) months, such as a balance sheet, statement of operations, and bonding capacity?

Yes

No

*(Evidence that bidder has financial resources to start up and follow through on the project(s) and to respond to damages in case of default as shown by written verification of bonding capacity equal to or exceeding the amount of the bidder's scope of work on the project. The written verification must be submitted by a licensed surety company rated "B+" (or better) in the current A.M. Best Guide and qualified to do business within the State of Michigan, and the same audited financial information for any subcontractor estimated to be paid more than \$100,000.00 related to any portion of the project.)*

22. Can bidder provide evidence of a quality assurance program used by the bidder and the results of any such program on the bidder's previous projects?

Yes

No





**ARTICLE III - Time of Completion**

- (A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed issued by the City.
- (B) The entire work for this Contract shall be completed in accordance with the Detailed Specification entitled "Project Schedule."
- (C) Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount as stated in the Detailed Specification entitled "Project Schedule" for each calendar day of delay in the completion of all the work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

**ARTICLE IV - The Contract Sum**

- (A) The City shall pay to the Contractor for the performance of the Contract, the lump sum and unit prices as given in the Bid Form for the estimated bid total of:

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

- (B) The amount paid shall be equitably adjusted to cover changes in the work ordered by the Supervising Professional but not required by the Contract Documents. Increases or decreases shall be determined only by written agreement between the City and Contractor.

**ARTICLE V - Assignment**

This Contract may not be assigned or subcontracted any portion of any right or obligation under this contract without the written consent of the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under this contract unless specifically released from the requirement, in writing, by the City.

**ARTICLE VI - Choice of Law**

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this Contract, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract. The parties stipulate that the venue referenced in this Contract is for convenience and waive any claim of non-convenience.

Whenever possible, each provision of the Contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the Contract.

#### **ARTICLE VII - Relationship of the Parties**

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any Contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this Contract.

#### **ARTICLE VIII - Notice**

All notices given under this Contract shall be in writing, and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

#### **ARTICLE IX - Indemnification**

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this Contract, by the Contractor or anyone acting on the Contractor's behalf under this Contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. The provisions of this Article shall survive the expiration or earlier termination of this contract for any reason.

#### **ARTICLE X - Entire Agreement**

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

**ARTICLE XI – Electronic Transactions**

The City and Contractor agree that signatures on this Contract may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Contract. This Contract may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**FOR CONTRACTOR**

By \_\_\_\_\_

Its: \_\_\_\_\_

**FOR THE CITY OF ANN ARBOR**

By \_\_\_\_\_  
Christopher Taylor, Mayor

By \_\_\_\_\_  
Jacqueline Beaudry, City Clerk

**Approved as to substance**

By \_\_\_\_\_  
Tom Crawford  
City Administrator

By \_\_\_\_\_  
Craig A. Hupy, P.E.,  
Public Services Area Administrator

**Approved as to form and content**

\_\_\_\_\_  
Stephen K. Postema, City Attorney

## PERFORMANCE BOND

- (1) \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for \$ \_\_\_\_\_, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City entitled 2020 Bridge Capital Preventative Maintenance Repairs - ITB No. 4647 and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.
- (3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may promptly remedy the default or shall promptly:
- (a) complete the Contract in accordance with its terms and conditions; or
- (b) obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a Contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.
- (4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the Contract.
- (5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work, or to the specifications.
- (6) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_  
 (Name of Surety Company)  
 By \_\_\_\_\_  
 (Signature)

Its \_\_\_\_\_  
 (Title of Office)

Approved as to form:

\_\_\_\_\_  
 Stephen K. Postema, City Attorney

\_\_\_\_\_  
 (Name of Principal)  
 By \_\_\_\_\_  
 (Signature)

Its \_\_\_\_\_  
 (Title of Office)

Name and address of agent:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## LABOR AND MATERIAL BOND

- (1) \_\_\_\_\_  
of \_\_\_\_\_ (referred to as  
"Principal"), and \_\_\_\_\_, a corporation duly authorized  
to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor,  
Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan  
Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of \$ \_\_\_\_\_,  
for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators,  
successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City entitled 2020 Bridge Capital Preventative  
Maintenance Repairs - ITB No. 4647; and this bond is given for that Contract in compliance with Act  
No. 213 of the Michigan Public Acts of 1963 as amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required  
under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no  
obligation if the Principal promptly and fully pays the claimants.
- (5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu  
of an original signature and agree to treat electronic signatures as original signatures that bind them to  
this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile  
signature will be deemed to have the same effect as if the original signature had been delivered to the  
other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_  
(Name of Surety Company)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

\_\_\_\_\_  
Stephen K. Postema, City Attorney

\_\_\_\_\_  
(Name of Principal)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Name and address of agent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# **GENERAL CONDITIONS**

## **Section 1 - Execution, Correlation and Intent of Documents**

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

(1) Addenda in reverse chronological order; (2) Detailed Specifications; (3) Standard Specifications; (4) Plans; (5) General Conditions; (6) Contract; (7) Bid Forms; (8) Bond Forms; (9) Bid.

## **Section 2 - Order of Completion**

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

## **Section 3 - Familiarity with Work**

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

## **Section 4 - Wage Requirements**

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of

subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. A sample Prevailing Wage Form is provided in the Appendix herein for reference as to what will be expected from contractors. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

If the Contractor is a "covered employer" as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Contract a "living wage," as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Contract are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision covering subcontractor's employees who perform work on this contract.

## **Section 5 - Non-Discrimination**

The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of Title IX of the Ann Arbor City Code, and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

## **Section 6 - Materials, Appliances, Employees**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.



Adequate sanitary facilities shall be provided by the Contractor.

## **Section 7 - Qualifications for Employment**

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

## **Section 8 - Royalties and Patents**

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

## **Section 9 - Permits and Regulations**

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

## **Section 10 - Protection of the Public and of Work and Property**

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage, and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to its work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents, or caused by agents or employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

## **Section 11 - Inspection of Work**

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

## **Section 12 - Superintendence**

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

## **Section 13 - Changes in the Work**

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

## **Section 14 - Extension of Time**

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;
- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.

## **Section 15 - Claims for Extra Cost**

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section I3. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;
- (3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;
- (4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;
- (5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

## **Section 16 - Progress Payments**

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than 180 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

## **Section 17 - Deductions for Uncorrected Work**

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

## **Section 18 - Correction of Work Before Final Payment**

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within 10 days after written notice, the City may remove them and, if the removed material has value, may store the material

at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

## **Section 19 - Acceptance and Final Payment**

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

- (1) The consent of the surety to payment of the final estimate;
- (2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

- (1) unsettled liens;
- (2) faulty work appearing within 12 months after final payment;
- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

## **Section 20 - Suspension of Work**

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the

written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

## **Section 21 - Delays and the City's Right to Terminate Contract**

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

## **Section 22 - Contractor's Right to Terminate Contract**

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

## **Section 23 - City's Right To Do Work**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

## **Section 24 - Removal of Equipment and Supplies**

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

## **Section 25 - Responsibility for Work and Warranties**

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.



## **Section 26 - Partial Completion and Acceptance**

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

## **Section 27 - Payments Withheld Prior to Final Acceptance of Work**

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

- (1) Defective work not remedied;
- (2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;
- (3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- (4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

## **Section 28 - Contractor's Insurance**

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of

policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

- (a) Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

- Bodily Injury by Accident - \$500,000 each accident
  - Bodily Injury by Disease - \$500,000 each employee
  - Bodily Injury by Disease - \$500,000 each policy limit

- (b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

- \$1,000,000 Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
  - \$2,000,000 Per Project General Aggregate
  - \$1,000,000 Personal and Advertising Injury
  - \$2,000,000 Products and Completed Operations Aggregate

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

- (d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

## **Section 29 - Surety Bonds**

Bonds will be required from the successful bidder as follows:

- (1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
- (2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company authorized to transact business in Michigan and satisfactory to the City Attorney.

## **Section 30 - Damage Claims**

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.

## **Section 31 - Refusal to Obey Instructions**

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

## **Section 32 - Assignment**

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

## **Section 33 - Rights of Various Interests**

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

## **Section 34 - Subcontracts**

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

## **Section 35 - Supervising Professional's Status**

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

## **Section 36 - Supervising Professional's Decisions**

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

## **Section 37 - Storing Materials and Supplies**

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

## **Section 38 - Lands for Work**

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

## **Section 39 - Cleaning Up**

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

## **Section 40 - Salvage**

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

## **Section 41 - Night, Saturday or Sunday Work**

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

## **Section 42 - Sales Taxes**

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.

## Section 43

### CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period \_\_\_\_\_, 20\_\_\_\_, to \_\_\_\_\_, 20\_\_\_\_, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled \_\_\_\_\_, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Past due invoices, if any, are listed below.





## **STANDARD SPECIFICATIONS**

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Bid.

Any work modified by the Detailed Specifications shall be performed in accordance with the applicable Detailed Specification(s) contained in these contract documents. Any work not covered by the City Standard Specifications or the project Detailed Specifications shall be performed in accordance with the applicable section(s) of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

Standard Specifications are available online:

<http://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx>

# **DETAILED SPECIFICATIONS**

CITY OF ANN ARBOR  
NOTICE TO BIDDERS

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**Utility Coordination**

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the Contractor shall follow the requirements in Section 107.12 of the 2012 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, or any other delay, will be determined based upon the General Conditions of the Contract, Section 14 – Extension of Time.

For protection of underground utilities, the Contractor shall call “MISS DIG” toll free at 1-800-482-7171 or call 811 a minimum of three (3) working days prior to excavation within the project limits. The Contractor must also notify utility owners who may not be part of the “MISS DIG” system.

The Contractor shall notify the City of Ann Arbor a minimum of three (3) days prior to beginning construction.

The Owners of public or private utilities which will not interfere with the completed project and which do not present a hazard to the public or an extraordinary hazard to the Contractor's operations will not be required to move their facilities on or from the street right-of-way.

An aerial electric pole in the southeast quadrant of the Island Drive structure, owned by DTE, needs to be relocated to facilitate construction, as is shown in the plans. This relocation work will be performed by others and is expected to be completed prior to construction.

**Work By Others**

During the life of this contract other public authorities and utility companies may be performing work within or adjacent to the project limits, including, but not limited to; utility relocations and adjustments; traffic control; street maintenance; etc. The Contractor shall cooperate and coordinate construction activities with these agencies in accordance with Section 104.08 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

**Existing Utilities, Site Features, and Investigations**

The existing utilities structures, features, and site conditions above and underground are shown on the Contract Drawings from the best available information. These include, but are not limited to; pipelines, conduits, and the like.

CITY OF ANN ARBOR  
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It is the Contractor's sole responsibility to perform its own site investigations and research and to incorporate in its bid sufficient amounts for all utility coordination work, with the exception of the aforementioned DTE aerial electric pole. If any utilities, structures, features and/or site conditions are discovered or suspected by the Contractor to be different than shown on the plans, the Contractor is obligated to notify the Engineer immediately in writing so an addendum may be issued and/or the bid date may be revised.

Agreements, Permits, Reports, and other Investigations and Information utilized in the development of the project are available for review by prospective bidders prior to submittal of their bid. Making this information available for review does not relieve the Contractor from the responsibility of performing its own site investigations, and the Contractor is responsible for any and all conclusions that are drawn from this data.

Electronic copies of the full versions of the available project documents can be obtained by contacting:

City of Ann Arbor Engineering  
301 E. Huron Street; P.O. Box 8647  
Ann Arbor, Michigan 48107-8647

Michael G. Nearing, P.E.  
Senior Project Manager  
(734) 794-6410 ext. 43635  
[mnearing@a2gov.org](mailto:mnearing@a2gov.org)

8:00 a.m. to 5:00 p.m. (only)

The Contractor's submittal of a bid shall be considered prima facie evidence that it has reviewed all available information and performed all needed investigations and that its bid contains the needed resources to complete the project for the lump sum and unit prices contained herein.

**EGLE Permit**

The required EGLE permit for work in the stream at the Island Drive Bridge is being obtained by the City of Ann Arbor and shall be provided to the Contractor prior to construction. The Contractor is responsible to comply with the terms of the permit when it is obtained. It is expected that the terms of permit will be similar to the existing permit that was obtained and is contained in these documents for the work on the Fuller Road bridges.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**MAINTAINING TRAFFIC  
AND  
CONSTRUCTION SEQUENCING**

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**a. Description.** Maintain traffic according to Subsection 104.11 and Sections 812 and 922 of the MDOT 2012 Standard Specifications for Construction, including any Supplemental Specifications, the 2011 Edition of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD), and as specified herein.

The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade lights within the project and around the perimeter of the project for the safety and protection of through and local traffic. This includes, but is not limited to; advance, regulatory, and warning signs; barricades and channeling devices at intersecting streets on which traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets; and, moving traffic control devices for construction operations.

**b. Materials.** The materials and equipment shall meet the requirements specified in the sections designated of the MDOT 2012 Standard Specifications for Construction and all Detailed Specifications contained in these Contract Documents.

**c. Permits.** Prior to the start of construction, the Contractor shall obtain a "Right-of-Way" and a "Lane Closure" Permit from the City of Ann Arbor Engineering. The fees for these permits will be waived. The lane closure permit must be obtained at least 48 hours in advance of any proposed street or lane closing. The Contractor shall provide ample additional time in their work flow to allow for the submittal and processing of all required permits from the City and other governmental agencies.

**Work Restrictions.** Lane closures, other than stoppages of traffic of a short duration, will not be permitted on Maiden Lane. Sidewalk closures will be permitted on Maiden Lane as detailed on the project plans for the specified bridge railing rehabilitation work.

A complete road closure will be permitted for a period not to exceed 60 consecutive calendar days on Island Drive. A more detailed description of the time allotted for this work can be found in the Detailed Specification entitled "Project Schedule" found elsewhere in these contract documents. A detour route shall be provided as detailed in the project plans.

Sidewalk and Lane closures will be permitted on Broadway as detailed in the project plans.

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Sidewalk and Lane closures will be permitted on Fuller Road as detailed in the project plans.

During the University of Michigan home football game weekends no work whatsoever will be permitted. All streets and sidewalks that can be opened shall be opened. Home football game weekends start at 3:30 p.m. on the Friday preceding the game and are considered to end at 7:00 a.m. the following Monday. In the event that the general public is not allowed to attend these home football games, this requirement will be waived by the Engineer.

During the Ann Arbor Art Fairs (the exact time of this event is not known at this time, but is expected to occur on, or about, July 15 through 18, 2021) road work and traffic interruptions will not be permitted. All streets and sidewalks that can be opened shall be opened. Work that will not interrupt traffic and that can be performed within established lane closures will be permitted. Trucking on or off site will not be permitted.

During the University of Michigan fall student move-in dates, road work and traffic interruptions will not be permitted. All streets and sidewalks that can be opened shall be opened. Work that will not interrupt traffic will be permitted. Trucking on or off site will not be permitted. The exact move-in dates are not known at this time but will be in late August or early September. The Contractor shall anticipate at least two days for the Fall student move-in and shall include this time in their construction schedule.

**Police and Fire.** The Contractor shall notify local police, fire departments, and emergency response units a minimum of three business days (72 hours) prior to the closure of any roads, or traffic shifts causing restricted movements of traffic or restricted access. This is typically done through the submittal of the Lane Closure permit. Thus, the timely submittal of this permit application should be considered an important and integral part of the project's work.

**Work Performed by City of Ann Arbor Signs and Signals Unit.** City of Ann Arbor Signs and Signals Unit will be responsible for adjustments to pedestrian signals at the following intersections when sidewalk closures are in place; Fuller Road and Maiden Lane; Fuller Road and Cedar Bend Drive; and, Broadway and Swift Street. The Contractor shall coordinate with, and provide at least 72 hours (working days only,

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Monday through Friday) advance notice, to Signs and Signals personnel for these purposes.

**Maintenance of Traffic, General.** Unless otherwise indicated on the drawings, residential side streets shall not be closed to through traffic except during construction operations of short duration and only with written approval of the Engineer.

The Contractor shall not obstruct traffic lanes in any manner from 7:00 to 9:00 a.m. and from 3:30 to 6:00 p.m. At other times the temporary obstruction of traffic for loading and unloading of trucks will be permitted if the Contractor provides flag control in conformance with Part VI of the MMUTCD. During temporary obstructions, a minimum of two flaggers are required. The cost of flag control shall be included in the contract pay item "Traf Regulator Control".

Daily lane closures in accordance with City of Ann Arbor requirements will be permitted for select activities detailed in the Sequence of Construction. Obtain a "Lane Closure" permit for daily lane closures as detailed in the Permits section of this Detailed Specification. Daily lane closures shall be implemented using signs, cones, drums, lighted arrow boards, and other devices as required by the MMUTCD. The cost of daily lane closures shall be included in the contract pay item "Minor Traffic Devices, Max. \$\_\_\_\_\_".

The Contractor shall coordinate his operations with all Utilities and Contractors and/or sub-Contractors performing work on this and other projects within, or adjacent to, the Construction Influence Area (CIA).

**Maintenance.** A minimum of one (1) driveway shall be maintained at all times to all residences and businesses. Walks, driveways, and entrances to buildings shall not be blocked. Vehicular and pedestrian access shall be maintained to all properties.

Once work is initiated that includes any lane restrictions, that work shall be continuous until completed. A lack of work activity for more than one week will require the removal and replacement of lane restrictions at the Contractor's expense.

Changes or adjustments in the staging plans, temporary pavement markings, signs and maintaining traffic typicals provided may be necessary to field fit conditions as determined by the Engineer.

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

1. Utilize the following Maintaining Traffic Typical Details:

- A. M0020a L, D, and B Values
- B. M0240a
- C. M0250a
- D. M0340a

Ground driven sign supports for temporary signs shall be as shown on attached Typical Plan WZD-100-A. Refer to Traffic and Safety Special Detail WZD-125-E for portable supports.

Eight (8) additional W20-1 (ROAD WORK AHEAD) with "ON BROADWAY" and "ON FULLER" signs are included in the quantities to serve as advanced warning signs to be placed on adjacent roads in order to assist motorists determine where construction activities may be encountered. Fabricate, install, and remove temporary sign overlays on existing signs with the pay item for Sign, Type B, Temp, Prismatic, Furn. Attach the overlay in accordance with subsection 812.03.D.2 of the Standard Specifications for Construction.

**Signs and Pavement Markings.** When sidewalk closures are in place, the Contractor shall completely cover all conflicting warning, regulatory and guide signs in accordance with Section 812.03 of the Standard Specifications for Construction, 2012 edition, and all applicable details therein.

Removal of pavement markings on surfaces that will not be milled or overlaid must be performed by non-destructive, abrasive, methods as approved by the Engineer. The pavement marking removal must not scar the pavement that will remain in place. The Contractor has the option (at their expense) of provided 6" wide, black, Type R, pavement markings to completely cover the existing lane markings that will remain at the conclusion of the project's construction.



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**Sequence of Construction.** This special provision does not detail all the project work. It is intended to indicate major project requirements and assist the Contractor in developing, for the review and approval of the Engineer, the Progress Schedule as outlined elsewhere in the contract documents.

The Contractor shall notify the Engineer a minimum of five (5) working days prior to the implementation of any pedestrian detours, or temporary lane closures. These detours or lane closures shall only be implemented with the approval of the Engineer. The Contractor shall also notify City of Ann Arbor Signs and Signals personnel regarding signal work as specified in the section entitled "Work Performed by City of Ann Arbor Signs and Signals."

All proposed work must be performed in accordance with the timing requirements of the Detailed Specification entitled "Project Schedule". Proposed work at each structure may take place in succession or concurrently in accordance with the restrictions specified in the Detailed Specification entitled "Project Schedule". Daily lane closures in accordance with City of Ann Arbor requirements will be permitted during mobilization, demobilization, and at other times as approved by the Engineer. Pedestrian detours for railing repairs and barrier rehabilitation work at Maiden Lane may take place at any time during the course of the project in accordance with the timing requirements as outlined in the Detailed Specification entitled "Project Schedule."

The traffic control required by this Detailed Specification for work on Broadway and Fuller Road and adjacent roadways is based on the suggested sequence of operations described below and as shown on the drawings. The Contractor may request to use an alternate traffic control plan, however it must be approved in writing by the Engineer prior to its implementation. Place all traffic control devices in accordance with Section 812 and the MMUTCD. The Contractor is solely responsible for ensuring the proper placement and operation of all traffic control devices used on this project.

The following is a brief description of traffic control required during the proposed construction for each bridge:

On Broadway (Structure No. 11075, 11076) over the Huron River

A. Stage 1:

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1. Provide a left lane closure on westbound Broadway and maintain a 5 feet wide clear path along the lane closure of westbound Broadway to allow pedestrians to get to the train station uninterrupted.
- B. Stage 2:
  1. Provide inside lane closure on both westbound and eastbound Broadway.
- C. Stage 3:
  1. Provide a right lane closure on eastbound Broadway and maintain a 5 feet wide clear path along the lane closure of eastbound Broadway to allow pedestrians to get to the train station uninterrupted.
  2. Remove temporary traffic control devices and open road to full traffic operations.
2. On Fuller Road (Structure No. 11070, 11071) over the Huron River
  - A. Stage 1:
    1. Provide a right lane closure on eastbound Fuller Road and detour the south sidewalk to the north side of the road.
  - B. Stage 2:
    1. Provide inside lane closure on both eastbound and westbound Fuller Road.
  - C. Stage 3:
    1. Provide a left lane closure on westbound Fuller Road and detour the north sidewalk to the south side of the road.
    2. Remove temporary traffic control devices and open road to full traffic operations.

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3. On Island Drive (Structure No. 11081) over Traver Creek

- A. Provide signage to detour vehicular and pedestrian traffic to Island Drive Court, Nielsen Court, and Maiden Lane.
- B. Erect Type III Barricades and Pedestrian Type II Barricades to close Island Drive during construction.
- C. At the completion of construction, remove barricades and detour signage.

**d. Measurement and Payment.** The estimated quantities for maintaining traffic is based on the maintenance of traffic plans. Any additional signing, traffic control devices, pavement markings, or the like required to expedite the construction, beyond that which is specified, shall be at the Contractor's sole expense.

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FOR  
**CERTIFIED PAYROLL COMPLIANCE AND REPORTING**

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**a. Description.** This specification covers all administrative requirements, payroll reporting procedures to be followed by Contractors performing work on City-sponsored public improvements projects, and all other miscellaneous and incidental costs associated with complying with the applicable sections of the City of Ann Arbor Code of Ordinances with regard to payment of prevailing wages and its Prevailing Wage Compliance policy.

This specification is **not** intended to include the actual labor costs associated with the payment of prevailing wages as required. Those costs should be properly incorporated in all other items of work bid.

**b. General.** The Contractor is expected to comply with all applicable sections of Federal and State prevailing wage laws, duly promulgated regulations, the City of Ann Arbor Code of Ordinances, and its Prevailing Wage Compliance Policy as defined within the contract documents. The Contractor shall provide the required certified payrolls, city-required declarations, and reports requested elsewhere in the contract documents within the timeline(s) stipulated therein.

The Contractor shall also provide corrected copies of any submitted documents that are found to contain errors, omissions, inconsistencies, or other defects that render the report invalid. The corrected copies shall be provided when requested by the Supervising Professional.

The Contractor shall also attend any required meetings as needed to fully discuss and ensure compliance with the contract requirements regarding prevailing wage compliance. The Contractor shall require all employees engaged in on-site work to participate in, provide the requested information to the extent practicable, and cooperate in the interview process. The City of Ann Arbor will provide the needed language interpreters in order to perform wage rate interviews or other field investigations as needed.

Certified Payrolls may be submitted on City-provided forms or forms used by the Contractor, as long as the Contractor's forms contain all required payroll information. If the Contractor elects to provide their own forms, the forms shall be approved by the Supervising Professional prior to the beginning of on-site work.

**c. Unbalanced Bidding.** The City of Ann Arbor will examine the submitted cost for this item of work prior to contract award. If the City determines, in its sole discretion, that the costs bid by the Contractor for complying with the contract requirements are not reasonable, accurately reported, or may contain discrepancies, the City reserves the right

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to request additional documentation that fully supports and justifies the price as bid. Should the submitted information not be determined to be reasonable or justify the costs, the City reserves the right to pursue award of the contract to the second low bidder without penalty or prejudice to any other remedies that it may have or may elect to exercise with respect to the original low-bidder.

The Contract Completion date will not be extended as a result of the City’s investigation of the as-bid amount for this item of work, even if the anticipated contract award date must be adjusted. The only exception will be if the Contractor adequately demonstrates that their costs were appropriate and justifiable. If so, the City will adjust the contract completion date by the number of calendar days commensurate with the length of the investigation, if the published Notice to Proceed date of the work cannot be met. The contract unit prices for all other items of work will not be adjusted regardless of an adjustment of the contract completion date being made.

**d. Measurement and Payment.** The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Certified Payroll Compliance and Reporting.....	Lump Sum

The unit price for this item of work shall include all supervisory, accounting, administrative, and equipment costs needed to monitor and perform all work related to maintaining compliance with the tasks specified in this Detailed Specification, the City of Ann Arbor Code of Ordinances, its Prevailing Wage Compliance policy and the applicable Federal and State laws.

Payment for this work will be made with each progress payment, on a pro-rata basis, based on the percentage of construction completed. When all of the work of this contract has been completed, the measurement of this item shall be 1.0 times the Lump Sum bid amount. This amount will not be increased for any reason, including extensions of time, extra work, and/or adjustments to existing items of work.

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FOR  
HOURS OF WORK

AA:MGN

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**a. General Restrictions.** Hours of work shall be as stated in the Ann Arbor City Code Title IX, Chapter 106, Pg. 9.13, Weekdays, Monday through Saturday, between the hours of 7:00 a.m. and 8:00 p.m.

**b. Exceptions.** The Contractor shall only perform work at night or on Sundays as required by the contract documents, unless there is a special need and the work is approved by the Engineer. All requests to work during off-hours shall be submitted to the Engineer for approval a minimum of three (3) working days prior to beginning the work.

**c. Method of Payment.** The costs of night work, whether required by the Contract or requested by the Contractor, shall not be paid for separately, but shall be considered included in the cost of the affected contract items (pay items).

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FOR  
**GENERAL CONDITIONS, MAX. \$\_\_\_\_\_**

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**a. Description.** This work shall consist of performing all needed preparatory work and operations needed to begin the work of the project. All elements of this item of work are to be performed in accordance with the City of Ann Arbor Standard Specifications for Construction (current edition), as shown on the plans, and as directed by the Engineer.

**b. Materials.** None specified.

**c. Methods of Construction.** This item shall include all work described and required by the Plans and Specifications for which no item of work is listed in the Bid Form, including but not limited to:

- Scheduling and organization of all work, subcontractors, suppliers, material testing, inspection, and construction surveying and staking;
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities;
- Protection and maintenance of all existing utilities, including support, protection, capping, repair, replacement, connection or re-connection of existing pipes, and utilities damaged by the Contractor's operations;
- Maintaining and removing all soil erosion and sedimentation controls (as specified herein or as shown on project plans) for which no pay item exists;
- Maintaining the site, and all areas within the Construction Influence Area, in a well-graded and drained state at all times during the course of the project. De-watering and drainage of all excavations as required to maintain a stable, open hole;
- Temporary sheeting, bracing, and shoring of excavations in accordance with the applicable MIOSHA Standards;
- Maintaining driveway openings, sidewalks, bike paths, mail deliveries, and solid waste/recycle pick-ups. This includes the placement and maintenance of maintenance aggregate in driveway openings and across sidewalk ramps all as needed and as directed by the Engineer;
- Storing all materials and equipment off lawn areas;
- Temporary removal/re-location, storage, and re-installation/re-setting of existing street name, guide, and regulatory signs, mailboxes, newspaper tubes, etc. which conflict with the proposed construction;
- Coordination efforts to furnish the various required HMA mixtures as directed by the Engineer;
- Coordination efforts to furnish and operate various-size vehicles/equipment as directed by the Engineer

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**GENERAL CONDITIONS, MAX. \$\_\_\_\_\_**

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- Furnishing and operating vacuum-type street cleaning equipment a minimum of once per week, or more frequently, if directed by the Engineer to prevent mud-tracking and fugitive dust issues;
- Furnishing and operating vacuum-type utility structure cleaning equipment,
- Furnishing and operating both vibratory plate and pneumatic-type (“pogo-stick”) compactors;
- Furnishing and operating a backhoe during all work activities;
- Furnishing and operating a jackhammer and air compressor during all work activities;
- Noise and dust control in accordance with the applicable City of Ann Arbor Ordinances;
- Mobilization(s) and demobilization(s) of all needed materials, equipment, and personnel;
- Furnishing of all required informational submittals and material certifications for all needed materials and supplies incorporated into the project;
- The proper off-site disposal of all excavated materials and debris;
- Fencing to protect excavation over 1’ in depth during non-work hours. The fencing must be a minimum of 48” high, be constructed of orange HDPE material, and reasonably secured to prevent unwanted access;
- All miscellaneous and incidental items such as overhead, insurance, and permits; and,
- Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

**d. Measurement and Payment.** This item of work will be paid for on a pro-rata basis at the time of each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum, minus any deductions incurred for inadequate performance. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.



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The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following contract item (pay item):

**Contract Item (Pay Item)**

**Pay Unit**

General Conditions, Max. \$ \_\_\_\_\_ ..... Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the City of Ann Arbor Standard Specifications for Construction and as modified by this Detailed Specification.

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FOR  
**PROJECT SCHEDULE**

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The entire work under this Contract shall be completed in accordance with, and subject to, the scheduling requirements as outlined below and in accordance with all other requirements of the Contract Documents.

The Contractor shall be furnished with 2 copies of the Contract, for their execution on, or about, Monday, November 30, 2020. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificates, to the City by no later than Monday, January 4, 2021. City Council approval of the Construction Contract is expected Monday, January 18, 2021.

The City of Ann Arbor expects to provide the Contractor with a fully executed Contract on, or about, Monday, February 22, 2021 that will allow time to procure materials, organize the work effort, and hold the necessary start-up meetings.

The Contractor shall not begin the work of this project until suitable weather is available; Weather and Seasonal Limitations shall apply to all work tasks associated with this project. For schedule development purposes it is assumed that work on this project will begin on, or about, April 15, 2021.

The hours of work shall be as stated in the Public Services Area Standard Specifications, Division I, Section 1F.

Sidewalk closures on Maiden Lane shall be limited to **14 consecutive calendar days per Stage**, unless approved by the Engineer. Failure to meet this completion date will result in liquidated damages being assessed at a rate of **\$500/day**.

Sidewalk and Lane closures on Broadway shall be limited to **45 consecutive calendar days per Stage**, unless approved by the Engineer. Failure to meet this completion date will result in liquidated damages being assessed at a rate of **\$900/day**.

Sidewalk and Lane closures on Fuller Road shall be limited to **45 consecutive calendar days per Stage**, unless approved by the Engineer. Failure to meet this completion date will result in liquidated damages being assessed at a rate of **\$900/day**.

Complete road closure of Island Drive shall be limited to **60 consecutive calendar days**, unless approved by the Engineer. This shall also be deemed to include the needed sidewalk, guardrail installation, and grading as shown on the plans. Failure to meet this completion date will result in liquidated damages being assessed at a rate of **\$500/day**.

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The Contractor shall only be allowed to work in two locations (i.e. Fuller Road and Broadway) simultaneously. The maintenance of traffic quantities provided on the bid forms have been prepared accordingly. Maintenance of traffic items that are designated to be paid as furnished and operated will only be paid as furnished to the project one time. Additional uses of maintaining traffic items on other work locations of this project shall be paid as "Operated" of the item of work. Should the Contractor's choice of simultaneous work locations require additional traffic control items in accordance with the plan sheets, they shall be provided by the Contractor at no additional cost to the project.

The work associated with performing any re-grading, topsoil placement, seeding, and removal of equipment ruts and associated damage that occurs to the areas surrounding the project work areas shall be performed on an on-going basis.

Any needed the final grading, topsoil placement, seeding and/or re-seeding, and mulch blanket placement shall be completed by the Final Completion Date of the project.

The entire work under this Contract including, but not limited to; all bridge repairs on every bridge, permanent pavement marking placement; topsoil, seed, and mulch blanket placement; all final clean-up; the removal of any and all traffic control devices; and, any and all other work shall be completed by the **Final Completion** date of **Monday, October 26, 2021**.

**Time is of the essence in the performance of the work of this contract.** The Contractor is expected to mobilize sufficient personnel and equipment and work the required overtime to complete the project within the specified number of calendar days and/or calendar date associated with this Contract. The Contractor shall submit authorization requests for any Sunday work that is desired to be completed a minimum of 3 working days in advance of the day of the proposed work. There will be no additional compensation due the Contractor for work performed on Sundays.

Prior to the start of any construction, including mobilization and staging, the Contractor shall submit a detailed progress schedule of work for the Engineer's review and acceptance. Work shall not start until a schedule is accepted in writing by the Engineer. The proposed schedule must fully comply with the scheduling requirements contained herein and in other Detailed Specifications. The Contractor shall update the accepted work schedule upon changes, and upon request by the Engineer, and present it to the Engineer within 7 days of said request or change.

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FOR  
**PROJECT SCHEDULE**

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Failure to complete the work by the specified Final Completion date as specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **\$900.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the Final Completion date as defined in this Detailed Specification.

Liquidated Damages will be assessed until the required work is completed and may be assessed concurrently at each location for which the work remains uncompleted. There will be no seasonal suspension of Liquidated Damages for the work of this contract.

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FOR  
**EXPLORATORY INVESTIGATION, APPROACH SIDEWALK**

FTCH/VDG:COAA:MGN

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09/17/19

**a. Description.** This work consists of providing all materials, equipment and labor for determining the existence, or lack of existence, of voids under the concrete approach sidewalks by way of exploratory investigation at the Fuller Road over Huron River bridge approaches. All work shall be performed in accordance with Sections 206, 501 and 901 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified by this Detailed Specification.

**b. Materials.** Superpave HMA Mixtures per Section 902

**c. Construction.** Applies to locations where the concrete approach sidewalk transitions to HMA sidewalk, as determined by the Engineer. Work to follow procedures listed herein:

*Removal and Investigation:*

1. Sawcut 24" x 36" rectangular area in existing HMA sidewalk pavement.
2. Carefully remove existing HMA layer with sawcut area.
3. Hand dig base material to a depth of approximately 3" to 6" below existing concrete sidewalk. Contractor must take care not to damage existing utility ducts cast into sidewalk.
4. With direction from the Engineer, determine whether or not there are voids below the concrete sidewalk or spalls/delaminations in the sidewalk substrate.
  - a) If voids are found underneath, or within, the concrete approach sidewalks. The Engineer will direct the remedial measures to be employed by the Contractor to eliminate the observed deficiencies. The remedial work will be paid for as negotiated extra work in accordance with Section 15 of the General Conditions of the contract.

*Backfill and Restore Approach Pavement:*

5. Backfill with removed base material and MDOT Class II Granular Material in accordance with Section 206.03.B.2.b. Contractor shall take care to backfill and compact base material around existing utility ducts to fill voids between and equalize pressure around ducts without damage to ducts.
6. Place HMA, LVSP per Section 501 to match existing HMA pavement thickness and grade. Compact to 92 to 96% of the materials  $G_{mm}$ .

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FOR  
**EXPLORATORY INVESTIGATION, APPROACH SIDEWALK**

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**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<b>Contract Item (Pay Item)</b>	<b>Pay Unit</b>
Exploratory Investigation, Approach Sidewalk.....	Each

**Exploratory Investigation, Approach Sidewalk** includes all labor, materials, and equipment for saw-cutting and removing existing HMA section, excavating to exploratory depth, making determination on quality of concrete sidewalk base material and/or substrate, and backfilling and restoring HMA pavement to existing grade.

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DETAILED SPECIFICATION  
FOR  
SUBBASE AND AGGREGATE BASE

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**a. Description.** This work shall consist of constructing subbase and/or aggregate base courses, on either a prepared subgrade or subbase as indicated on the Plans or where directed by the Engineer. This work shall be performed in accordance with Sections 301, 302, and 307 of the 2012 MDOT Standard Specification for Construction except as specified herein.

**b. Materials.** The material used for this work shall meet the requirements of Sections 301, 302, 307, and 902 of MDOT 2012 Standard Specification for Construction, except that the aggregate base shall be either 21-AA limestone (permanent applications) or 22-A (temporary pavement applications) and the subbase shall be Class II Granular Material.

**c. Construction Method.** Subbase, aggregate base courses, and approaches shall not be placed when there are indications that the mixture may become frozen before the maximum unit weight is obtained, and in no case shall they be placed on a frozen subbase or subgrade.

The subbase and subgrade shall be shaped to the crown and grade specified on the plans and maintained in a smooth condition. The top of the subbase shall be placed to within  $\frac{1}{2}$  inch below and  $\frac{1}{2}$  inch above plan grade. The top of the aggregate base shall be placed to within  $\frac{1}{2}$  inch below and  $\frac{1}{4}$  inch above plan grade. Variations within this tolerance shall be gradual. If in the opinion of the Engineer, the Contractor's equipment is causing or will cause any ruts in or damage to the subbase or subgrade, the equipment shall not be permitted on the subbase or subgrade.

Should the subgrade, subbase or aggregate base become damaged due to the Contractor's equipment or by local traffic, the subgrade, subbase, or aggregate base course shall be restored to the condition required by the Specifications without additional compensation to the Contractor.

No pavement course, concrete curb and gutter, or concrete driveway opening shall be placed until the subbase has been compacted to not less than 95 percent, and aggregate base course to not less than 98 percent of their respective maximum dry densities and until a "Permit to Place" has been issued by the Engineer.

Base course aggregate shall be handled and/or stockpiled on-site in a manner that minimizes segregation. Base course aggregate shall be deposited from trucks or through a spreader in a manner that will minimize segregation of material and that is approved by the Engineer. The re-handling of base course aggregate by the Contractor will not be considered sufficient cause to allow the material to become segregated. The Contractor

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may be required to wet the materials prior to and/or during placement to minimize segregation and to aid in compaction of the material should it be necessary.

All structures, including manholes, valve boxes, inlet structures and curbs shall be protected from damage and contamination by debris and construction materials. Structures shall be maintained clean of construction debris and properly covered at all times during the construction.

The Contractor may be charged for the cleaning by others of accumulated construction debris in the utility structures, and damages resulting from the uncleaned structures.

**d. Measurement and Payment.** The completed work as measured will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Subbase, CIP, Class II Granular Material, Modified .....	Cubic Yard
Aggregate Base, CIP, Variable Thickness.....	Cubic Yard

“Subbase, CIP, Class II Granular Material, Modified”, and “Aggregate Base, CIP, Variable Thickness” will be measured by volume in cubic yards. The items of work will be paid for at the contract unit prices, which shall be payment in full for all labor, material and equipment needed to accomplish this work.

The subbase will be calculated using the nominal width and depth of the subbase indicated on the plans. The aggregate base course will be placed on top of the existing aggregate base after the existing asphalt surface has been removed in order to achieve the desired profile grade as indicated on the plans. The volume of the proposed aggregate base course will be calculated using the nominal width of the proposed aggregate base course indicated on the plans. The Contractor shall assist the Engineer in measuring and recording the existing top of aggregate base course elevations and final top of proposed aggregate base course elevations in order to compute the volume of material that has been compacted in place.



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**a. Description.** This work shall consist of installing storm sewer in accordance with Section 402 of the Michigan Department of Transportation 2012 Standard Specifications for Construction and as specified herein. All newly constructed storm sewer shall be tested, and video inspected in accordance with the requirements of this detailed specification.

The Contractor shall furnish all materials, equipment, tools, and labor necessary to perform the work required by this special provision and shall unload, haul, distribute, store, and install all pipe, fittings, and accessories.

The Contractor shall excavate all trenches and pits to the required dimensions; excavate the bell holes; sheet, brace, and properly support the adjoining ground or structures where necessary to comply with MIOSHA and other relevant safety standards; properly handle and remove all drainage or ground water so that the work can be completed in accordance with the specifications; install and test the pipe, fittings, and accessories; backfill and compact all fill materials within trenches and pits; and remove and properly dispose of surplus or unsuitable excavated material off-site.

**b. Materials.** The materials used for this work shall be in accordance with Section 402.02 except as modified herein.

Bedding and backfill for Trench Detail A shall be Granular Material, Class II, meeting the requirements of Section 902. Bedding and backfill for Trench Detail B shall be Granular Material, Class II and Engineer-approved material for the backfill that is placed at an elevation greater than 1-foot above the top-of-pipe and/or outside the 1:1 influence line of paved areas.

All pipe shall be concrete, contain steel reinforcement, and shall be of the type, class, and size as shown on the plans.

Reinforced concrete pipe shall conform to the requirements for reinforced concrete pipe of ASTM Designation C 76, Class IV, unless otherwise designated on the Plans. For diameters larger than listed in ASTM Specifications, wall thickness and reinforcing steel shall be as shown in Section 909 Table 909-3 or 909-4 as applicable.

Reinforced elliptical concrete pipe shall conform to the requirements for reinforced concrete elliptical pipe of ASTM Designation C 507, Class as designated on the Plans. For diameters larger than listed in ASTM Specifications, wall thickness and reinforced steel shall be as shown in Section 909 Table 909-5.

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Joints for reinforced concrete pipe shall meet ASTM C-443 and shall be rubber gasket for tongue and groove, full bell and spigot rubber O-ring gasket, or modified grooved tongue with rubber gasket. Joints for sewers over 36 inches in diameter shall have inside joints cement mortar pointed to their full depth and shall have the outside joints provided with a cement mortar collar.

Joints for reinforced concrete elliptical pipe shall be mastic compound with inside cement mortar pointing to full depth and outside cement mortar collar.

Lubricants used in making up joints shall be supplied by the pipe manufacturer and the joints shall be coupled in accordance with the manufacturer's requirements.

Class X concrete as described in this special provision shall consist of Portland Cement, coarse and fine aggregates, and water, proportioned with 282 lbs. cement (3 sacks) per cubic yard to produce a minimum 28-day compressive strength of 1000 psi.

**c. Pipe Inspection and Delivery.** The following information shall be clearly marked on each length of pipe:

- a) The pipe designation and class (e.g., C 76, Class IV).
- b) The name or trademark of the manufacturer.
- c) Identification of the manufacturing plant.
- d) The date of manufacture.
- e) Testing lot number or testing lab stamp.
- f) Reinforced concrete pipe with elliptical reinforcement shall be clearly marked on the inside and the outside opposite walls along the minor axes of the elliptical reinforcing.
- g) Beveled pipe shall be marked with the amount of bevel and the point of maximum length shall be marked on the beveled end.

All pipe furnished shall be subject to inspection on arrival at the job site by the Engineer. The purpose of the inspection shall be to cull and reject pipe or fittings that, independent of physical tests specified under the standard specifications designated herein, fail to conform to the requirements of these Specifications.

The Contractor shall notify the Engineer sufficiently in advance so that an Inspector may be on the job during the unloading of materials. A minimum notice of 24 hours is required for such unloading and inspection.

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Concrete pipe of any type shall be subject to rejection on account of any of the following:

- a) Variation in any dimension exceeding the permissible variations given in the material specifications.
- b) Fractures or cracks passing through the wall.
- c) Defects that indicate imperfect proportioning, mixing, or molding.
- d) Surface defects indicating honeycombed or open texture.
- e) Variation of more than 1/16 inch per lineal foot in alignment of pipe intended to be straight.
- f) Insecure attachment of branches or spurs.
- g) Damaged ends, where in the judgment of the Engineer such damage would prevent making a satisfactory joint.

Rejected pipe shall be plainly marked by the Inspector and immediately removed from the site of the work by the Contractor without cost to the project.

All pipe furnished shall be accompanied by the manufacturer's certificate of test showing conformity with the Specifications. Each certificate shall identify a specific lot number, quantity of pipe, and show actual test results for the lot furnished. These certificates shall be submitted to the Inspector at the time of unloading.

**d. Methods of Construction.** All construction shall be performed in accordance with Section 402.03 except as modified herein.

The Contractor shall fully comply with all laws and regulations governing construction methods and the furnishing and use of all safeguards, safety devices, protective equipment, and pollution controls. Where required to support the surfaces of adjacent roadways, structures, or excavations, or to protect the construction work, adjacent work, or workmen, the Contractor shall design and install sheeting, bracing, and shoring. The Engineer will not review the Contractor's design(s) or be responsible for the adequacy of the elements supporting the trench. The placing of such supports shall not release the Contractor of the responsibility for the sufficiency and integrity of the trench, trench opening, and the safety of all persons involved in the work. In the removing of sheeting and bracing after the construction has been completed, special care shall be taken to prevent any caving of the sides of the excavation and injury to the completed work or to adjacent property.

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The bedding and backfill for Trench Detail A shall be MDOT Class II sand compacted to 95% of its maximum dry density. Compaction shall be performed as specified elsewhere in this special provision.

The bedding and backfill for Trench Detail B to a point 12 inches above the top of pipe, shall be MDOT Class II granular material compacted to 95% of its maximum dry density. The backfill above a point 12 inches above the top of pipe shall be Engineer-approved material, compacted to 90% of its maximum dry density. Compaction shall be performed as specified elsewhere in this special provision.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground structures, both known and unknown, may be determined, and the Contractor shall be held responsible for the repair of such structures when broken or otherwise damaged. The Contractor shall not intentionally remove existing storm sewer, storm sewer leads, or sanitary sewer leads in lieu of protecting and preserving them in order to expedite the proposed construction.

Excavation normally shall be by open cut from the surface, except as otherwise specified, or in special cases where crossing under trees, pavements, or structures. The Contractor may use tunnel methods if permitted in writing by the Engineer, provided his method of backfill is such, in the judgment of the Engineer, as to avoid any present or future injury to the tree, pavement, or structure. All excavation shall be in such manner as will provide adequate room for the construction and installation of the work to the lines, grades and dimensions shown on the Plans.

The trench shall be excavated to a minimum of four inches below the final location of the pipe. For reinforced concrete pipe 66" in diameter or larger, the trench will be excavated to a minimum of six inches below the pipe. This cut shall be filled to the level of the bottom quadrant of the pipe with Class II granular material as specified herein, shaped and compacted to the pipe barrel.

Bell holes shall be provided in the trench bottom at each joint to permit the joints to be made properly.

The Contractor shall dig-up and expose all utility crossings prior to laying any storm sewer pipe. This will allow the Engineer to adjust the grade of the storm sewer, if possible, to avoid the existing utilities. The costs of the exploratory excavation, and all related costs, shall be included in the unit price of the storm sewer. The Engineer may require that some dig-ups be performed out of the current construction stage or phase

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where the sewer work is taking place in order to aid in alignment decisions. Any required traffic control measures required to comply with this requirement shall be included in the costs of "Minor Traffic Devices, Max. \$\_\_\_\_" and "Traf Regulator Control."

During the construction it may be necessary to cross under or over certain sewers, drains, culverts, water lines, gas lines, electric lines, and other underground structures or facilities, known or unknown. The Contractor shall make every effort to prevent damage to such underground structures and facilities. Wherever such structures or facilities are disturbed or broken, they shall be restored to a condition that is as good, or better than, that which existed prior to the disturbance and shall be acceptable to the owner and the City, at the Contractor's expense. These crossings shall be made with a minimum of twelve inches of vertical clearance between facilities.

Not more than 50 feet of trench shall be open at one time in advance of the pipe laying operation. At no time shall more than 200 feet of trench be opened and incompletely backfilled. At the end of each day, no more than 25 feet of trench may be left open, and access to all drives shall be restored. This opening shall be surrounded by fencing and barricades, or plated. The remainder of the trenching operation shall be available for safe vehicular and pedestrian traffic at all times.

All excavated material approved by the Engineer as backfill material and imported backfill material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks and driveways. All excavated material which is unsuitable for backfill shall be immediately removed from the site by the Contractor unless otherwise provided in the contract documents. Hydrants under pressure, manholes of any kind, valve boxes, curb stop boxes, fire and police call boxes, and other utility controls shall be left unobstructed and accessible until the work is completed. Gutters shall be kept clear, or other satisfactory provisions made, for street drainage, and natural water courses shall not be obstructed.

Each pipe shall be inspected for defects prior to being lowered into the trench. Inside of pipe and outside of spigot shall be cleaned of any earth or foreign matter.

Proper implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, manhole bases, manhole sections, and other similar items shall be carefully lowered into the trench piece by piece by means of suitable tools or equipment as recommended by the manufacturer, in such a manner as to prevent damage to them and their protective coatings and linings. Under no circumstances shall materials be

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dropped or dumped into the trench.

Construction of sewers shall begin at the outlet end and proceed upgrade. Pipe shall be laid on the prepared pipe bedding with the bell ends facing the direction of laying, unless otherwise directed by the Engineer.

The Contractor shall take every precaution to prevent foreign material from entering the pipe while it is being placed in the line. During laying operations, no debris, tools, clothing or other materials shall be placed in the pipe. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug. This provision shall apply during the noon hours as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

Pipe shall be jointed as specified elsewhere herein.

No pipe shall be laid until a cut sheet for that pipe has been approved by the Engineer. All pipe shall be laid at the correct line and grade as indicated by the grade stakes and offset line. The correct line and grade shall be maintained by the use of a laser alignment system. Each pipe, as laid, shall be checked by the Contractor to ensure that this result is obtained. The grade as shown on the Plans is that of the pipe invert for sewers and the work must conform to this profile. A variation of  $\frac{1}{4}$ " from this profile grade will be deemed sufficient reason to cause the work to be rejected and re-laid. Sewer pipe alignment shall be maintained so as to not vary more than  $\frac{1}{2}$ " from the correct line on pipes up to 36-inches in diameter nor more than 1" on pipes 42-inches in diameter and larger. Any pipe found out of line shall be re-laid properly by the Contractor.

Mechanical means shall be used for pulling home all rubber-gasketed pipe regardless of trench condition where manual means will not result in pushing and holding the pipe home. When a trench box or liner is used, a cable shall be used to pull the joints home and hold them in position.

Where work is performed in wet trenches or trenches with running sand, the Contractor shall provide and use mechanical means for pulling the pipe home in making up the joint and for holding the pipe joints tight until completion of the line. Mechanical means shall consist of a cable placed inside or outside of the pipe with a suitable winch, jack, or come-along for pulling the pipe home and holding the pipe in position.

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Where not required by these Specifications, manual means will be acceptable only if the joints can be pushed home and hold themselves securely in place.

All pipes shall be bed on a four inch or thicker layer of compacted Class II granular material (unless noted otherwise on the applicable trench details) unless pipe undercutting is required. Perform any required pipe undercutting as directed by the Engineer and in accordance with the Section 402.03.A.

Where Class II granular material used as pipe bedding is required by the plans, from the bedding to the pipe centerline backfill shall be carefully placed Class II granular material, placed in maximum lift thicknesses of six inches, loose measure. Each lift shall be thoroughly compacted by hand tamps, pneumatic "pogo-sticks", or other approved methods, to at least 95% of the material's maximum dry density at optimum moisture content. Each lift shall extend the full width of the space between the pipe and trench wall, and the fill shall be brought up evenly on both sides of the pipe. The backfill under the haunches of the pipe shall be consolidated by the use of a tee-bar.

Where Class II granular material used as pipe bedding is required by the plans, from the pipe centerline to the top of the pipe, backfill shall be Class II granular material placed in maximum lift thicknesses of six inches, loose measure. Each lift shall be thoroughly compacted by hand tamps, pneumatic "pogo-sticks", or other approved methods, to at least 95% of the material's maximum dry density.

From the top of the pipe to two feet above the top of the pipe backfill shall be Class II granular material uniformly spread and machine tamped. Machine tamping shall include manually operated vibrating plate compactors. The backfill material shall be compacted in lifts of twelve inches, loose measure.

From two feet above the top of the pipe to the grade shown on the Plans or to the subgrade of surface materials, or to the subgrade of surface structures, backfill shall be Class II granular material (Trench Detail A installations) uniformly spread and machine tamped. If machine tamping includes manually operated vibrating plate compactors or self-propelled vibrating rollers the backfill material shall be compacted in lifts not exceeding twelve inches, loose measure. If a backhoe mounted compactor is employed, the backfill material shall be compacted in lifts of thirty-six inches, loose measure. Approval to use a particular machine tamping method will be withdrawn by the Engineer if the method causes injury to the pipe or adjacent structures or movement of the pipe. Each lift shall be thoroughly compacted to at least 95% of material's maximum dry density. The Engineer may give consideration to giving written

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permission to increase the thickness of the lifts specified in this paragraph if satisfactory compaction is achieved and no undesirable side effects occur.

From one foot above the top of the pipe to the grade shown on the Plans or to the subgrade of surface materials, or to the subgrade of surface structures, backfill shall be Engineer-approved material (Trench Detail B installations) uniformly spread and machine tamped. If machine tamping includes manually operated vibrating plate compactors or self-propelled vibrating rollers the backfill material shall be compacted in lifts not exceeding twelve inches, loose measure. If a backhoe mounted compactor is employed, the backfill material shall be compacted in lifts of thirty-six inches, loose measure. Approval to use a particular machine tamping method will be withdrawn by the Engineer if the method causes injury to the pipe or adjacent structures or movement of the pipe. Each lift shall be thoroughly compacted to at least 90% of the material's maximum dry density.

All storm sewer shall be television inspected by the Contractor. The Contractor shall furnish all labor, equipment and materials necessary for the television inspection. The Engineer shall be given 24 hours' notice so that an Inspector may witness the television inspection. All storm sewer lines are to be thoroughly cleaned prior to television inspection, by jetting of the lines or other approved methods. Television inspection shall consist of wetting the invert of the section by pouring clean water in the upstream manhole until it appears in the downstream manhole, and then, after the water has stopped flowing, passing a television camera through the section. The television camera shall be passed through the section of pipe from the downstream to upstream end. Any runs of sewer not televised in this manner shall be re-televised at the Contractor's expense. The camera shall be connected to a monitor and a digital video recorder capable of generating DVD format disks. The video inspection record shall indicate the date, the section tested, and the actual distance from the beginning manhole to the ending manhole and shall note each visible defect. A USB-flash drive of the sections televised shall be furnished to the Engineer for review.

The television inspection will be deemed satisfactory if no visible defects, including, but not limited to, dips or low spots, high spots, errors in horizontal or vertical alignment, joint offsets, leaks, cracks, standing water greater than 1/4", or debris, are present. Only after all tests have been successfully completed, and acknowledged by the Engineer in writing, may the storm sewer be placed into service.

If a sewer repair is required as a result of damage during construction operations or television inspection failure, the Contractor shall expose the sewer pipe and perform



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the required correction(s), as specified herein and as directed by the Engineer.

If the repair is required due to the pipe being out of alignment or off grade, the pipe shall be adjusted so as to be placed in proper alignment and grade. Coarse-graded aggregate material shall be carefully placed under the haunches of the realigned pipe and compacted by the use of a tee-bar. From the haunches of the pipe, backfilling shall be performed in accordance with the requirements for backfilling as outlined elsewhere in this special provision.

If the pipe cannot be satisfactorily realigned or an open joint reset; or if the pipe is cracked, broken, or permanently deflected, the affected pipe shall be removed and replaced with the same pipe material. The pipe to be removed is to be sawed on each side of the damaged section in a neat and workmanlike manner without damage to the adjacent pipe. The replacement pipe section shall fit flush to the remaining pipe at each end. These sawed joints shall be coupled using a flexible pipe coupling and stainless steel shear ring. These joints shall be encased to the pipe centerline with Class X concrete one foot on either side of the flexible coupling. The remaining pipe backfill shall be performed in accordance with the applicable requirements for backfilling as outlined elsewhere in this special provision.

**e. Measurement and Payment.** The completed work as measured will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Sewer, CI-IV, 12 inch, Tr Det A, Modified .....	Foot
Sewer, CI-IV, 12 inch, Tr Det B, Modified .....	Foot

The items of work listed above shall be paid for by the length of pipe actually installed. The unit price for this item of work shall include all labor, material, and equipment costs, including video inspection, and all needed items to properly complete the work as shown on the plans, as detailed in the Specifications, and as directed by the Engineer.

The herein specified dig-ups shall be included in the cost of the pipe and not paid for separately.

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**DRAINAGE STRUCTURE COVERS**

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**a. Description.** This work shall consist of furnishing drainage structure covers as detailed on the plans and as specified herein.

Type of Casting	MDOT Designation	Approx. Weight (lb)	East Jordan Iron Works Casting No.	Neenah Foundry Casting No.
Manhole Flange and Cover	B	400 LB	1040 w/ Type A cover*	R-1642 w/ Type C cover*
Manhole Flange and Cover, Sanitary	Q	400 LB	1040 w/ Type A cover	R-1642 w/ Type C cover*
Barrier Curb Round Flange	K	500 LB	7045 w/ Type M2 grate	R-3031-B w/ Type S grate
Barrier Curb Double Inlet Round Flange	K	500 LB	7045 w/ Type M2 grate	R-3031-B w/ Type S grate
Gutter Inlet Round Flange	R	500 LB	7076 w/ Type M1 grate	R-3594w/ Type S grate
Gutter Double Inlet	R	N/A	N/A	N/A
Yard Drain (Bee Hive)	G	200 LB	1040, Type 02 grate	R-2560-E1
Operating Nut Access Frame and Cover	1-A	200 LB	1570Z, 2965A Cover	Equivalent (as approved)

\*Frames and covers shall have machined bearing surfaces. Covers shall have two (2), 1 inch, vent holes located opposite each other and 6 inches from the edge of the cover, except for sanitary sewer manholes. Each cover shall have the word "SEWER", or the word "WATER", or a raised letter "W" cast in the surface, whichever is applicable.

**b. Materials.** The materials used for this work shall conform to Section 908.05 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as specified herein.

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**c. Construction Methods.** The construction methods shall be as specified in the related items of work for which the drainage structure covers are provided.

**d. Measurement and Payment.** The completed work as measured shall be paid at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Dr Structure Cover, Type ____, Special.....	Each

Payment for this item of work shall include all labor, materials and equipment needed to furnish the drainage structure cover.

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**a. Description.** This work shall consist of constructing drainage structures in accordance with Section 403 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

**b. Materials.** The materials used for this work shall conform to Subsection 403.02 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as specified herein.

Storm sewer drainage structures shall be constructed of precast or cast-in-place reinforced concrete sections, or concrete masonry units. All sanitary sewer manholes and gate wells (water main valve manholes) shall be constructed of precast reinforced concrete sections.

Precast reinforced concrete bases, bottom sections, manhole risers, grade adjustment rings, concentric cones, eccentric cones, and flat slab tops shall conform to the requirements of ASTM C-478. Joints on precast manholes used on all sanitary sewers shall meet ASTM C-443, rubber O-ring gasket.

Precast manhole tees and radius pipe sections shall conform to requirements for reinforced concrete pipe, ASTM C-76, Class IV. Joints shall conform to adjacent pipe. Tees and radius pipe shall conform to details indicated on drawings offered by the Concrete Pipe Association of Michigan, Inc., or Engineer approved equal.

If precast drainage structures are used, they shall be designed to accommodate HL-93 Modified Live Load requirements as determined by a Professional Engineer licensed by the State of Michigan, regardless of where they are to be installed. For the purposes of design, a HL-93 Modified Live Load shall consist of 1.2 times the design truck or 1.2 times a single 60-kip load, whichever produces the greater stresses.

If precast structures are used, the Contractor shall field verify inverts prior to fabricating precast units. No additional payment will be made to the Contractor for precast units that cannot be used due to existing inverts being different than shown on the plans, changes in vertical or horizontal alignment due to conditions found in the field, or similar unforeseen circumstances.

If the Contractor elects to use pre-cast drainage structures, or if portions of the drainage structures are constructed with pre-cast concrete elements, the Contractor shall submit to the Engineer for review and approval shop drawings in accordance with Section 104.02 of the Michigan Department of Transportation 2012 Standard Specifications for

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**Construction.**

For each submittal or resubmittal, the Contractor shall allow at least 14 calendar days from the date of the submittal to receive the Engineer's acceptance or request for revisions. The Engineer's comments shall be incorporated into the submitted plans, calculations and descriptions. The Engineer's acceptance is required before beginning the work. Resubmittals shall be reviewed and returned to the General Contractor within 14 calendar days. Required revisions will not be a basis of payment for additional compensation, extra work, or an extension of contract time. The Contractor shall include time for this entire review process in his/her CPM network schedule.

Concrete masonry units shall conform to the requirements for concrete masonry units for catch basins and manholes, ASTM C-139.

Concrete brick shall conform to the requirements for concrete building brick, ASTM C-55, Grade N-1.

Where specified on the plans, use a PVC liner that is 30 mils thick. The PVC liner shall be seamless for its entire length and width in its installed position. Use resins to manufacture the PVC liner that are 100 percent first quality virgin polyvinyl chloride. The PVC liner must be resistant to ultraviolet degradation, construction damage and all forms of biological and chemical degradation normally encountered in highway construction applications. Satisfy the physical properties contained in the following table.

**PVC Liner Physical Requirements**

<b>Property</b>	<b>Test Method</b>	<b>Requirement</b>
Thickness Tolerance	ASTM D 1593	5+/- percent
100 Percent Modulus	ASTM D 882	1000 psi (minimum)
Elongation @ Break	ASTM D 882	300 percent (minimum)
Dimensional Stability	ASTM D 1204 (212 degrees F, 15 minutes)	5 percent change (maximum)

With each material shipment, provide test data certification from the manufacturer which includes a certified report of quality control test results obtained from the lot(s) of material in the shipment. Label each unit of material to provide product identification

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sufficient for field identification and correlation to certified test results. Certify the specified physical properties as minimum average roll values (MARV).

Plastic coated manhole steps shall be injection molded of copolymer polypropylene, encapsulating a 1/2 inch grade 60 steel reinforcing bar. Plastic-coated manhole steps shall meet the performance test described in ASTM C-478, Paragraph II, and shall have an impact resistance of 300 ft.-lbs. with only minor deflection and no cracking or breaking. The steps shall resist pull out forces of 1500 lbs.

**c. Methods of Construction.** The construction methods used shall conform to Section 403.03 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as specified herein.

Excavation shall be carried to the depth and width required to permit the construction of the required base. The excavation width shall be greater than the base. The bottom of the excavation shall be trimmed to a uniform horizontal bed and be completely dewatered before any concrete is placed therein. Precast manhole bases and precast bottom sections are allowed.

Concrete block construction shall only be allowed for storm sewer manholes and inlets and shall be built of the size and dimensions shown on the Plans. The block shall be clean, laid in a full bed of mortar, and thoroughly bonded by completely filling the vertical end grooves with mortar so as to interlock with the adjacent block. The mortar beds and joints shall not exceed 3/4-inch thickness. The vertical joints are to be completely filled with the joints on the inside face rubbed full of mortar and struck smooth as the manhole, inlet or structure is built up. The entire outside face of the structure shall receive a 1/2" thick mortar coat and struck smooth. All masonry materials, sand, and water shall be heated to over 50°F during freezing weather, and the completed work shall be covered and protected from damage by freezing.

Circular precast manhole sections shall be constructed in accordance with the details as shown on the plans. Manhole stack units shall be constructed on level poured-in-place bases, precast concrete bases, or precast concrete bottom sections.

Precast cone sections shall be constructed in accordance with the details as shown on the plans. These units shall be eccentric for all manholes, precast or block. All structures shall be topped with a minimum of one, and a maximum of three, 2" tall, brick or precast adjustment courses.

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FOR  
**DRAINAGE STRUCTURES**

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Manholes, inlets, gate wells and structures shall be constructed within 2-1/2 inches of plumb.

Frames and cover castings shall be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers shall be set flush with sidewalk, roadway pavement, or ground surfaces. The Engineer shall be notified prior to the final paving so as to allow inspection of the final casting adjustments for all utility structures. In gravel streets, covers shall be set six to eight inches below finished gravel surface.

Sewer pipes shall extend into structures a minimum of 1/2 inch and a maximum of 3 inches.

Flow channels for sewer structures shall be finished in accordance with the details as shown on the plans. All flow channels shall be screeded and floated to a smooth, uniform surface and troweled to a hard surface finish.

Stubs for future sewer connections shall be furnished and placed by the Contractor as shown on the Plans and as directed by the Engineer. Connections shall be properly supported and braced when not resting on original ground so that any settlement will not disturb the connection. Stubs shall consist of one length of sewer pipe, of the size indicated on the Plans, with a watertight plug.

The excavation shall be kept in a dry condition. All necessary dewatering shall be paid for separately in accordance with the Special Provision entitled "Dewatering".

All necessary adjustments for new structures shall be included in the cost of the structure.

Removal and/or abandonment of the temporary drainage structures shall be performed as shown on the plans and as directed by the Engineer.

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**d Measurement and Payment.** The completed work as measured shall be paid at the Contract Unit Price for the following Contract (Pay) Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Dr Structure, Single Inlet.....	Each
Dr Structure, Inlet-Junction Chamber.....	Each

Payment for drainage structures includes furnishing the labor, equipment and materials for all necessary excavation, disposing of surplus excavated material, backfilling, and constructing the structure complete, including pipe connections and structure cleaning.

Payment for additional depth for drainage structures includes furnishing the labor, equipment, and materials for all necessary excavation, disposing of surplus excavated material, backfilling, and constructing the structure complete, including pipe connections and structure cleaning, for the portion of the structure which is deeper than 8 feet (including sump).

Payment for adjusting of drainage structure covers shall be included in payment for the structure. Drainage structure covers will be paid for separately.



CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**OVERBAND CRACK FILL**

FTCH/VDG:COAA:MGN

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09/03/19

**a. Description.** This work consists of providing all materials, equipment and labor for filling approach pavement cracks and covering over E3 joints at the bridge end reference lines as identified in the contract or as directed by the Engineer. All work shall be performed in accordance with Section 502 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as modified by this Detailed Specification.

**b. Materials.** Use materials as described in Section 502.02

**c. Construction.** Follow methods described in Section 502.03. Completely cover full length of replaced E3 end joints with overband material.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Overband Crack Fill.....	Foot

**Overband Crack Fill** includes all labor, materials, and equipment costs for preparing and filling approach pavement cracks and covering over E3 end joints; providing the required documentation; and any and all corrective action.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**E3 JOINT SEALANT REPLACEMENT**

FTCH/VDG:COAA:MGN

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**a. Description.** This work consists of replacing and resealing existing E3 expansion joints. Work includes completely removing existing joint sealants and backer rods, cleaning the joints, and sealing the joints with a polyurethane or polyurethane hybrid joint sealant at the locations shown on the plans, or as directed by the Engineer. Perform all work in accordance with Section 602 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, detailed specifications, and standard plans.

**b. Materials.** Provide all materials in accordance with subsection 602.02 of the Standard Specifications for Construction, except as modified in this special provision.

Provide a solid, round, closed-cell, polyethylene foam backer rod meeting the requirements of *ASTM D 5249, for Type 1*. Non-sag polyurethane and polyurethane hybrid sealants must meet *ASTM C 920, Type S, Grade NS, Class 35*. Self-leveling polyurethane and polyurethane hybrids must meet *ASTM C 920, Type S, Grade P, Class 35*. Select a polyurethane or polyurethane hybrid based on the performance requirements in Table 1, or as approved by the Engineer.

**Table 1: Polyurethane or Polyurethane Hybrid Sealant Requirements**

Property	Test Method	Minimum Result
Movement capability, %	<i>ASTM C 719</i>	+35/-35
Tensile strength, psi	<i>ASTM D 412</i>	175
Tear strength, psi	<i>ASTM D 624</i>	35
Ultimate elongation at break, %	<i>ASTM D 412</i>	500
Hardness, Shore A	<i>ASTM C 661</i>	25
Tack-free time, hrs	<i>ASTM C 679</i>	6
Adhesion in peel, lbf	<i>ASTM C 794</i>	20

**c. Construction.** Construct and seal E3 expansion joints in accordance with Section 602.03. F of the Standard Specifications for Construction and Standard Plan R-39 Series, except as modified in this detailed specification.

1. Joint Preparation. Immediately prior to application of the polyurethane or polyurethane hybrid sealant, clean joint faces by abrasive blasting to remove all materials that may interfere with the bonding or curing of the sealant. If resealing joint, remove all existing sealant prior to abrasive blasting. Ensure the prepared joint faces meet the *International Concrete Repair Institute Guideline No. 03732*, concrete surface profile 3 (CSP 3). Use a vacuum or oil-free moisture-free air

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blast to remove all dust and other loose material. Remove any oil or other contamination after initial cleaning. Ensure there is no visible moisture present on the surface of the concrete at the time of application. The Engineer will not allow the use of artificial heat to dry joints before sealing. Ensure that the fiber joint filler is secure and installed at the proper elevation relative to the joint reservoir. Place backer rod to a depth according to the sealant manufacturer's recommendations.

- 2. Joint Sealing. Do not install sealant on concrete surfaces that are less than 28 days of age, unless otherwise specified by the manufacturer's recommendation. Horizontal applications with a cross slope less than or equal to 6 percent may use a self-leveling or non-sag sealant. Horizontal applications with a cross slope greater than 6 percent and vertical applications must use a non-sag sealant. Do not place sealant if weather or surface conditions are such that the material cannot be properly handled, placed, and cured within the manufacturer's requirements and specified requirements of traffic control.

**d. Measurement and Payment.** The completed work as described will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
E3 Joint Replacement.....	Foot

**E3 Joint Replacement** will be measured in place and paid for at the contract unit price per foot. Payment includes all labor, materials, and equipment required to remove existing joint material, prepare surfaces and place new joint material.

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DETAILED SPECIFICATION  
FOR  
**SUPERSTRUCTURE CONC, MODIFIED**

FIS:JBD/COAA:MGN

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**a. Description.** This work consists of providing all labor, equipment and materials necessary to construct a reinforced concrete wearing surface of variable thickness over the existing box beam superstructure as shown on the plans. Perform all work in accordance with Section 706 of the 2012 Standard Specifications for Construction. Prior to applying this wearing surface, the longitudinal joints between the existing box beams shall be cleaned of all material and grouted full.

For the purposes of this Detailed Specification, the reinforced concrete wearing surface to be placed shall be considered to be a bridge deck. Any references to the term “bridge deck” or “deck” in the 2012 MDOT Standard Specifications for Construction shall apply to the reinforced concrete wearing surface being placed.

**b. Materials.** Provide materials in accordance with Sections 702 and 706 of the Standard Specifications for Construction.

**c. Construction.** Perform all work associated with forming, finishing, and curing of the reinforced concrete wearing surface in accordance with Section 706 the 2012 MDOT Standard Specifications for Construction, the details shown on the plans, and this Detailed Specification.

The existing asphalt wearing surface and grout between the box beams shall be removed and the surface of the top of the box beams shall be thoroughly cleaned by shot-blasting, abrasive blasting, grinding machine, high-pressure water or air, or other similar means, of all asphalt, loose concrete and grout, debris, and any other material that will adversely affect the bonding of the to-be-placed concrete with the existing box beams. The work of cleaning the surface of the box beams and removal of the existing asphalt will be paid for separately.

After the above referenced cleaning work has been performed, the Engineer shall inspect the top of the box beams to determine if any additional work needs to be performed on the beams. If required, any remedial work required on the beams shall be paid for as Extra Work in accordance with the provisions of Sections 13 and 15 of the General Conditions of the contract. Work must be conducted without causing damage to the underlying box beams. Once directed by the Engineer that no remedial work is required or that any remedial work required has been satisfactorily completed, proceed to construct the reinforced concrete wearing surface.

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FOR  
**SUPERSTRUCTURE CONC, MODIFIED**

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Prior to forming the reinforced concrete wearing surface, grout longitudinal joints between the existing box beams in accordance with Section 708.03.B.1 of the Standard Specifications for Construction.

The reinforced concrete wearing surface shall be placed in accordance with the requirements of Section 706.03.I. The reinforced concrete wearing surface shall be Machine Finished in accordance with Section 706.03.M.1.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Superstructure Conc, Modified .....	Cubic Yard
Superstructure Conc, Night Casting, Modified .....	Cubic Yard

**Superstructure Conc, Modified** and **Superstructure Conc, Night Casting, Modified** quantities will be based on plan quantities in accordance with Subsection 109.01.A. Payment shall include all labor, material, and equipment required to place grout between existing box beams, and place the concrete wearing surface.

Forming, finishing, wet-curing the traveled lane wearing surface, and curing sidewalk wearing surface with white membrane curing compound will be measured and paid for separately.

Furnishing and operating lighting to facilitate placing concrete at night will be measured and paid for separately.

Reinforcing steel will be measured and paid for separately.

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DETAILED SPECIFICATION  
FOR  
**JOINT WATERPROOFING, SPECIAL**

FIS/JBD:COAA:MGN

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**a. Description.** This work consists of providing all labor, materials, and equipment to furnish and install a retrofit waterstop and liquid waterproofing membrane between the new reinforced concrete wearing surface and the vertical surface of the sidewalk beams. All work shall be performed in accordance with the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as described herein.

**b. Materials.** Provide retrofit waterstop and waterproofing membrane as shown on the plans and as specified herein.

Retrofit waterstop shall be Polyvinyl chloride, minimum 1,750 psi tensile strength, minimum -35° F working temperature, 6-inch wide, 3/8-inch thick, maximum possible lengths, non-tapered, ribbed profile, pre-formed corner sections, heat-welded jointing; factory-installed hog rings or grommets at 12 inch spacing along length of waterstop. Use Greenstreak Plastic Products No. 581, or equal as approved by the Engineer.

Waterproofing Membrane shall be water activated, cold-applied, solvent-free, non-shrink, liquid waterproofing membrane. Waterproofing shall have the following properties as determined by laboratory testing. Use HYDRALASTIC 836 SL Waterproofing Membrane by W. R. MEADOWS, or Engineer approved equal.

- a) Solids content by weight, ASTM C2369: 96%.
- b) Tensile Strength, ASTM D412: 350 psi.
- c) Elongation at break, ASTM D412: 500%.
- d) Water Vapor Transmission, ASTM E96 (Method BW): 0.1 perm in.
- e) Shore 00 Hardness, ASTM D2240: >76.
- f) VOC, ASTM D2369: 47 g/L

**c. Construction.**

1. Surface Preparation. Prior to installation, the concrete surfaces shall be thoroughly cleaned to remove all dirt, rust, curing compound, grease, oils, paint, waxes, or any other materials that could adversely affect the bond of the waterproofing membrane. Lightly roughen existing concrete surfaces to a medium sandpaper finish equal to or greater than ICRI CSP #3. All surfaces must be thoroughly dry, not damp, and have no standing water.

2. Installation. Install the retrofit waterstop and waterproofing membrane per the manufacturer's recommendations and as approved by the engineer.

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FOR  
JOINT WATERPROOFING, SPECIAL

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**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Joint Waterproofing, Special.....	Foot

Payment for **Joint Waterproofing, Special** shall include all labor, material, and equipment required to furnish and install the retrofit waterstop; and furnish, prepare concrete surfaces, and place the liquid waterproofing membrane.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**CONCRETE SURFACE COATING**

FTCH/VDG:COAA:MGN

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**a. Description.-** This work consists of furnishing and applying an acrylic-based concrete surface coating to concrete structures, including, but not limited to, bridge railing, deck fascia and beam fascia locations as specified on the plans. Ensure all work and materials are performed in accordance with the standard specifications, except as modified herein.

**b. Materials.-** Select the acrylic based concrete surface coating from the products listed below. On any single structure, use the same product for all areas to be coated with a specified color. Do not mix colors or products from more than one source. Ensure the color of the first coat is in contrast with both the bare concrete and the finish coat.

For this project, furnish and apply a smooth textured, concrete coating of the following color, or another Engineer approved color:

**Federal Standard color #36375**

Submit color samples to the Engineer for review and approval, a minimum of 14 days prior to the desired application date. If required by the Engineer, complete a test section to demonstrate the final color prior to application of the coating to the structure.

<u>Company</u>	<u>Product</u>
Benjamin Moore	Super Spec Masonry 100% Acrylic Elastomeric Coating Flat 056
Carboline Company	Carbocrylic 3350
ChemMasters	Colorcoat
ChemMasters	Colorlastic
Conspec	Permacoat
ICI Dulux Paints	Decra-Flex 300
O'Leary Paint Company	O'Leary 1375 Elastomeric
PPG Industries, Inc.	Perma-Crete Pitt-Flex Elastomeric Coating 4-110
Sherwin-Williams	Concrete Texture Coating Smooth B97-160 Series
Sika Corporation	Elastocolor
Sika Corporation	Sikagard 550W Elastic
Sonneborn	Super Color Coat
Tamms Industries	Tammolastic
Thoro	Thorocoat
Thoro	Thorolastic



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**c. Construction.-**

1. Surface Preparation. Cure new concrete a minimum of 28 days before coating. Following the curing period, and prior to coating, test for moisture content in the concrete as described below.

Prepare the surface, including removing fins and projections and filling surface voids and cracks. The Contractor shall provide a material for the Engineer's review and approval to fill all surface voids. Fill and repair surface voids according to the material supplier's recommendation, except as modified by the detailed specification. Ensure all concrete to be coated is tested for the presence of moisture after surface preparation has been completed and prior to application of the coating. Ensure testing is in accordance with *ASTM D 4263*. Tape an 18 inch by 18 inch sheet (4 mil) of transparent polyethylene to the concrete surface to be coated. Ensure all edges are sealed with tape that will stick to the concrete substrate and not allow the infiltration of air. Leave the plastic sheet in place a minimum of 16 hours to detect the presence of moisture in the concrete. There must be no moisture visible on the polyethylene sheet after the minimum period of time has elapsed for coating work to begin. This must be verified by the Engineer before application of the coating begins. This test may not be reliable in cooler conditions. Alternate methods to detect moisture must be approved by the Engineer. This test should be performed a minimum of once every 100 lineal feet on barriers, walls etc., and a minimum of once on columns, piers, etc.

Ensure the surface to be coated is dry and free from all contamination including, but not limited to: dirt, form release agents, oil, grease, laitance, loose material and curing compounds. Clean surface by low-pressure water cleaning, steam cleaning, or abrasive blasting (followed by oil-free compressed air cleaning) or by combination to achieve an acceptable cleaned surface. When low-pressure water cleaning or steam cleaning is used, the concrete surface profile (CSP) must be CSP 1 in accordance with the *International Concrete Repair Institute Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays* (Guideline No. 310.2R-2013). When abrasive blasting is used, the concrete surface profile must be CSP 2 to CSP 4. Low-pressure water or steam cleaning primarily removes water soluble contaminants. Aged concrete with contaminants such as hardened curing compound may require light abrasive blasting to completely remove the curing compound. Since many curing compounds contain wax, even well adhered residue must be removed prior to coating to ensure a good bond between the surface coating and the concrete.

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FOR  
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When low pressure water cleaning or steam cleaning is used, the power washer must deliver 3000 - 4500 psi and utilize a 15 degree or smaller nozzle tip held perpendicular to the surface being cleaned. When using light abrasive blasting to remove contaminants on new construction, be careful not to remove excessive concrete material.

2. Visual Inspection. Check surface cleanliness by lightly rubbing with a dark cloth or by pressing translucent adhesive tape onto the concrete surface in the presence of the Engineer. An acceptable level of residual dust can be agreed upon by the Engineer and the Contractor. Perform a water drop test in the presence of the Engineer prior to coating the concrete surface to detect for the presence of any hydrophobic contaminants. Hydrophobic contaminants include materials such as form release agents, curing compounds, oil, grease, wax, and resins. If contaminants are detected, as evidenced by a lack of rapid absorption of the water drop into the concrete, remove the contaminants and perform the tests again until no contaminants are detected.

3. Application. Apply two coats (do not dilute) of the acrylic based concrete surface coating. Apply each coat to provide the minimum wet film thickness as recommended by the manufacturer. A primer is not required unless stated as required in the manufacturer's product data sheet. Temperature limitations of the air, coating material and concrete for application shall follow manufacturer's recommendations but must not be outside the temperature range of 45 to 90 degrees F and the temperature of the air, coating material and concrete must be at least 5 degrees F above the dew point. Do not apply the concrete surface coating at a relative humidity greater than 90 percent or if rain is forecasted within the specified rain resistance period.

4. Masking existing railings and columns. The Contractor shall either remove or mask existing metal railing elements, pre-cast columns, and other surrounding features to prevent over-spray or un-intended application of the concrete surface coating to these elements. If metal railing elements are removed to facilitate the application of the concrete surface coating, the railing elements shall be numbered in sequential fashion and cataloged so that they can be replaced in their original location. Provide the Engineer a copy of the cataloged information for review and verification purposes. Do not damage the existing coating(s) of the railing elements during handling while removing, storing, and re-installing the railing elements.

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FOR  
CONCRETE SURFACE COATING

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**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

**Contract Item (Pay Item)**

**Pay Unit**

Conc Surface Coating ..... Square Yard

**Conc Surface Coating** includes all labor, equipment, and materials to prepare the substrate concrete surface, mask existing surfaces from over-spray, remove, store, replace existing railing elements, conduct the visual inspection, and apply the primer (if required) and two top coats of surface coating. No additional payment will be made for the test sections regardless of how many are required to verify moisture content of the concrete substrate.

**BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED 711A**

**CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR**

**BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED**

FIS:JBD/COAA:MGN

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**a. Description.** Construct railing in accordance with Standard Plan B-25 Series, Section 711 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction and as detailed on the plans. Provide coating of metal railing in accordance with Section 716 of the 2012 MDOT Standard Specifications for Construction.

**b. Materials.** The materials shall meet the requirements as stated in the Standard Specifications for Construction in Section 711.02 and 716.02, except as shown on the plans and as specified herein.

The railing posts are to be hot-dip galvanized in accordance with Section 711.03 and coated after fabrication. Choose one of the coating systems below. The color of the top coat will be high gloss black, Federal Standard No. 595b, color number 17038.

1. Carboline Company  
Carbozinc 859 – Primer  
Carboguard 893 – Intermediate Coat  
Carboguard 133 LH – Top Coat
2. Sherwin Williams  
Zinc Clad III HS – Primer  
Macropoxy 646 – Intermediate Coat  
Acrolon 218 HS – Top Coat
3. PPG Industries  
Amercoat 68HS – Primer  
Amercoat 399 – Intermediate Coat  
Amercoat 450H – Top Coat

**c. Construction.** Construction must be in accordance with the standard specifications, except as shown on the plans, and as specified herein.

Surface preparation prior to galvanizing steel must conform to *SSPC-SP 10 Near White Blast Cleaning* and *SSPC-SP8 Pickling*. An alternate method for cleaning may be submitted to the Engineer for approval.

The thickness of applied hot-dip galvanizing is to be performed using measurement techniques described in SSPC-PA-2. Any areas with insufficient galvanizing thickness

**BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED 711A**

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BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED**

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shall be repaired in accordance with Section 716.03.E of the Standard Specifications for Construction with the exception that zinc-rich paint shall not be considered to be an acceptable method of repair of damaged galvanization.

After galvanizing, quenching shall be performed with a phosphate solution to help with paint adhesion. Clean and degrease surfaces after galvanizing using either an alkaline or solvent solution per the solvent manufacturer's directions and clean rags. Care must be taken to prevent removing too much of the zinc coating. After cleaning thoroughly rinse the surface with hot water and allow to dry completely.

After cleaning and degreasing profile the surfaces by lightly sweep blasting. Care must be taken to prevent removing too much of the zinc coating. Particle size for a sweep blast of galvanized steel should range between 200-500 microns (8-20 mils). Aluminum/magnesium silicate or other proven material to remove oxide layer and roughen galvanized surfaces shall be used. A surface profile of 40-50 microns (1.5-2 mils) shall be achieved. Ensure surfaces are clean and dry prior to the painting application.

After profiling, coat the railing with one of the coating systems listed. Apply the coating(s) in accordance with the manufacturer's recommendations and MDOT required cure times.

During transportation, posts and rails shall be carefully handled and packed with soft materials such as carpet scraps, cardboard, or similar material such that the new coating is not damaged. Lift railing elements with slings or other materials that will not scratch or damage the railing coating.

Field repair all minor scratches and abrasions which occur in the field and which do not compromise the galvanizing by cleaning, priming, and painting per Section 716.03.D of the Standard Specifications for Construction. Field repair all areas of exposed steel at the weld locations and at locations of minor scratches and abrasions which compromise the galvanizing as per Section 716.03.E of the Standard Specifications for Construction, except that zinc-rich paint shall not be used for the repair of damaged galvanized surfaces. Only zinc-based solder or sprayed zinc shall be used. Repair coating in accordance with Section 716.03.D of the Standard Specifications for Construction. If over 0.5% of the total surface area, or over 10 square inches in any one area, of the railing's finish is damaged then the entire railing shall be sent back to the shop and recoated.

**BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED 711A**

**CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR**

**BRIDGE RAILING, AESTHETIC PARAPET TUBE, MODIFIED**

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**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following contract (Pay) Item:

**Contract Item (Pay Item)**

**Pay Unit**

Bridge Railing, Aesthetic Parapet Tube, Modified ..... Foot

**Bridge Railing, Aesthetic Parapet Tube, Modified** quantities will be based on plan quantities in accordance with Section 109.01.A. The work also includes all labor, materials, and equipment costs associated with placing the reinforcing steel; forming the railing; placing, curing, and protecting concrete; constructing joints; and all related work required to securely anchor the studs within the form work and cast the anchor studs and plate into the concrete.

Reinforcing steel will be measured and paid for separately as specified in Section 706.04 of the Standard Specifications.

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DETAILED SPECIFICATION  
FOR  
**STRUCTURES, REHABILITATION, REMOVE PORTIONS (STR 11081)**

FIS:JBD/COAA:MGN

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**a. Description.** This work consists of removing portions of the existing structure as detailed in the plans. All work shall be performed in accordance with the requirements of Section 712 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

**b. Materials.** None specified

**c. Construction.** Construction shall be in accordance with Section 712 of the Standard Specifications for Construction, except as modified herein.

Remove existing bridge railings and fence in accordance with Section 712 of the Standard Specifications for Construction.

Remove the existing HMA wearing surface over the existing box beams using a machine mounted scraper edge and hand methods. A cold-milling machine of appropriate size **may** be utilized for this work, in lieu of the machine mounted scraper. Whatever method of HMA wearing surface removal is utilized, the Contractor must be able to demonstrate that the machine does not damage the top surface of the pre-stressed beams and that it does not overload the structure.

Remove any remaining asphalt by using a machine-mounted scraper, power tools, and/or hand methods as necessary. Clean the surface of the pre-stressed beams using abrasive blasting, shot blaster, grinding machine, or other similar methods to achieve a surface free of all remaining asphalt and any other deleterious materials that will adversely affect the bond of the to-be-placed concrete. Other methods of asphalt removal and cleaning may be utilized, with prior approval from the Engineer. However, the Contractor will be prohibited from using equipment, including milling machines, that could potentially damage the existing box beams during the removal operation, unless it can be demonstrated to the satisfaction of the Engineer that the methods are safe and will not result in any unnecessary damage to the existing structure.

Remove the grout between the beams utilizing hand chipping or high-pressure water blasting. The Contractor may use manual pneumatic hammers, limited to 30 pounds. The Contractor is prohibited from using equipment that will damage the existing box beams during construction, if in the opinion of the Engineer unnecessary damage is occurring.

Prior to beginning work on the proposed concrete deck, thoroughly clean and water blast the top of all beams, and remove all debris. The Engineer shall be given a

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minimum of 3 business days to inspect the tops of the existing beams after this work has been completed and inform the Contractor of any needed additional cleaning.

If the existing pre-stressing steel is exposed during the removal operations, notify the Engineer immediately. Do not continue removal operations without approval of the Engineer. All exposed reinforcing and prestressing steel must be thoroughly cleansed of scale, rust, and debris by methods approved by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Structures, Rehabilitation, Remove Portions (STR 11081).....	Lump

Payment for **Structures, Rehabilitation, Remove Portions** shall include all labor, material, and equipment required to remove existing fence, bridge railings, HMA wearing surface, and grout between existing beams.



**PENETRATING HEALER SEALER ON BRIDGE DECKS 712C**

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**PENETRATING HEALER SEALER ON BRIDGE DECKS**

FTCH:VDG/COAA:MGN

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**a. Description.-** This work consists of providing all labor, materials, and equipment required to prepare, clean, and apply a penetrating epoxy healer/sealer system to concrete bridge decks. Ensure all work is completed in accordance with Section 712 of the 2012 Michigan Department of Transportation Standard Specifications for Construction except as modified herein. Bring any discrepancies between the two to the attention of the Engineer as soon as they are observed.

**b. Materials.-** Use solvent-free, moisture-insensitive, 100 percent solids, two-component, epoxy-based healer sealer. Ensure containers are marked clearly “Part A” or “Part B”. The epoxies that are approved for healer/sealers are in Table 1.

**Table 1: Approved Two Component 100 Percent Solids Epoxy Systems**

Supplier	Product	Contact Information
E-Chem	EP100	E-Chem, LLC (Ray Breer) 2944 William St. SE Albuquerque, NM 87102 (505) 217-2121
Euclid Chemical	Dural 335 Dural 50 LM	The Euclid Chemical Co. (Jamie Elsey) 20416 Harper Avenue Harper Woods, MI 48225 (313) 886-9700
Poly-Carb	Mark 127	Poly-Carb, Inc. (Dan Patacca) 1881 West Oak Parkway Marletta, GA 30062 (330) 405-3311
Sika	Sikadur 55 SLV	Sika – US (Wesley Pringle) 673 Cherry Orchard Road Canton, MI 48188 (248) 866-8956
Unitex	Pro-Poxy 40 LV LM	Dayton Superior Corporation (Blair Oldfield) 1125 Byers Road Miamisburg, OH 45342 (224) 217-0447

Ensure aggregate meets the gradation requirements in Table 2 and has a hardness of six or higher on the Mohs hardness scale. Ensure aggregate is angular, consists of natural silica sand, basalt, or other nonfriable aggregate, and contains less

PENETRATING HEALER SEALER ON BRIDGE DECKS 712C

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than 0.2 percent moisture when tested in accordance with *ASTM C 566*.

**Table 2: Aggregate Gradation Requirements**

Sieve Size	Minimum % Passing	Maximum % Passing
4	100	100
16	95	100
30	85	100
50	15	75
100	0	25
200	0	10
Pan	0	0

Ensure the aggregate is chosen from an approved supplier in Table 3 unless otherwise approved.

**Table 3: Approved Aggregate Suppliers**

Aggregate Supplier	Telephone
Cheboygan Cement	(231) 627-5631
Earth Work Solutions	(307) 682-4346
Fairmount Santrol	(800) 237-4986
Flint Rock Products	(918) 673-1737
Nugent Sand Company	(231) 755-1686
Red Flint Sand and Gravel	(800) 238-9139
Sand Products Corp.	(906) 292-5432
US Silica	(800) 238-9139
Washington Rock Quarries, Inc.	(253) 377-3438
Wexford Sand Co.	(800) 255-7263

Provide a test data certification to the Engineer that the materials meet the requirements specified herein.

**c. Equipment.-** For the epoxy healer/sealer, provide a distribution system or distributor capable of accurately blending the epoxy resin and hardening agent, and uniformly and accurately applying the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area, including 1 inch of the vertical face of curb/barrier. Provide a fine aggregate spreader capable of uniformly and

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accurately applying dry aggregate to cover 100 percent of the epoxy material. Provide a self-propelled vacuum truck.

For hand applications, provide calibrated containers, a Jiffy® type mixer, squeegees, and stiff bristle brooms suitable for mixing and applying the epoxy and aggregate.

For mechanical applications, provide mixing equipment that will automatically and accurately proportion the components in accordance with the manufacturer's recommendations and will mix and continuously place the healer/sealer. Ensure the operation proceeds in such a manner that will not allow the mixed materials to segregate, dry, be exposed or otherwise harden in such a way as to impair the retention and bonding of broadcasted aggregate.

**d. Construction.-**

1. Surface Preparation. Ensure patching and cleaning operations are inspected and approved prior to healer sealer installation. Protect utilities, drainage structures, curbs, bridge expansion joint devices, and any other structure within or adjacent to the healer sealer location from surface preparation activities and application of the surface treatment materials.

Do not perform surface preparation or installation of healer/sealer on concrete patches less than 28 days of age. Ensure that traffic paint lines are removed. Clean the entire concrete surface by abrasive blasting or shotblasting to remove all materials that may interfere with the bonding or curing of the binder. The cleaned concrete surface must meet the *International Concrete Repair Institute Guideline 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair*, concrete surface profile (CSP) 3. Ensure mortar is sound and sufficiently bonded to the coarse aggregate, and presents a uniform CSP necessary for adequate bond. Use a vacuum truck or oil-free, moisture-free, air blast to remove all dust and other loose material. Brooms are prohibited. Remove any oil or other contamination after initial cleaning.

The Engineer will inspect and approve patching and cleaning operations prior to placement of the healer/sealer. The Engineer's approval is required prior to placement of the healer sealer.

Ensure healer/sealer is applied within 24 hours of the final cleaning, and prior to opening the area to traffic.

**PENETRATING HEALER SEALER ON BRIDGE DECKS 712C**

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No visible moisture can be present on the surface of the concrete at the time of healer/sealer application. Oil-free, moisture-free, compressed air may be used to dry the deck surface. Use a plastic sheet left taped in place in accordance with *ASTM D 4263* to identify moisture in the healer sealer area except as modified herein. Tape an 18 inch by 18 inch transparent polyethylene sheet (4 mil) to the deck every 500 square feet. Ensure all edges are sealed with tape that will stick to the concrete substrate. Leave the plastic sheet in place for a minimum of 3 hours or as directed by the manufacturer's recommendations for cure time for the conditions, whichever is longer. Ensure there is no moisture visible on the polyethylene sheet. Alternate methods to detect moisture must be approved by the Engineer.

Remove all debris from the neoprene glands of strip-seal style expansion joints. Protect the expansion joints, and any other areas not to be sealed, from damage during preparation of the surface. Ensure the protection is removed once the epoxy and aggregate has been applied and prior to initial set. Ensure removing the protection is done soon enough to in no way harm the adjacent sealed surface. Ensure the protection meets the approval of the Engineer.

2. Application. Ensure handling and mixing of the epoxy resin and hardening agent is performed in a safe manner to achieve the desired results in accordance with the manufacturer's recommendations or as directed by the Engineer. Do not place healer/sealer materials when the concrete surface is less than 50 degrees Fahrenheit (F) or ambient air temperature is forecast to fall below 50 degrees F within 8 hours of application. Do not place healer/sealer materials if weather or surface conditions are such that the material cannot be properly handled, placed, and cured in accordance with the manufacturer's requirements and the specified requirements for traffic control.

After the epoxy mixture has been prepared for the healer/sealer, immediately and uniformly apply it to the surface of the bridge deck. Allow epoxy to pool and penetrate deck surface per the manufacturer's recommendation prior to application of dry aggregate. Ensure application of aggregate is of sufficient quantity so the entire surface is covered in excess. Ensure no bleed through or wet spots are visible in the overlay. Remove and replace any areas with wet spots or where epoxy has bled through. Minimize all foot traffic on the uncured epoxy and ensure any foot traffic will only be done with steel spiked shoes approved by the Engineer. Cure healer sealer until vacuuming or brooming can be performed without tearing or damaging the surface. Do not allow traffic or equipment on the healer/sealer surface during the curing period. Remove all loose aggregate after the curing period by vacuuming or brooming. Ensure all strip-seal style

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expansion joints are free of loose aggregate, epoxy and other debris resulting from healer/sealer operations.

**e. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Healer/Sealer .....	Square Yard

**Healer/Sealer** includes all labor, material, and equipment costs required for cleaning, preparing and applying a penetrating healer/sealer system including miscellaneous clean-up. Also includes all labor, material, and equipment costs necessary for cleaning strip-seal style expansion joints.

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DETAILED SPECIFICATION  
FOR  
**EPOXY OVERLAY ON BRIDGE DECKS**

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**a. Description.** This work consists of providing all labor, materials, and equipment for cleaning/preparing entire deck surface and applying a two-coat epoxy overlay. Ensure all work is completed in accordance with Section 712 of the Standard Specifications for Construction except as modified herein. Bring any discrepancies between the two to the attention of the Engineer as soon as they are observed.

**b. Materials.** Use a solvent-free, moisture-insensitive, 100-percent solids, low-modulus, and two-component epoxy system to overlay the structure. Ensure containers are marked clearly "Part A" or "Part B". The epoxies that are approved for thin overlays are in Table 1.

**Table 1: Approved Two Component 100 Percent Solids Epoxy Systems**

Supplier	Product	Contact Information
BASF	MasterSeal 350	BASF (David McCarron) 20611 Windemere Macomb, MI 48044 (586) 557-0235
E-Bond	526 Lo-Mod	Ridgemoor Supply Inc. (Jake Ike) 4484 Roger B. Chaffee Dr. Kentwood, MI 49548 (616) 532-0782
Euclid Chemical	Flexolith Flexolith Summer Grade Flexolith HD	The Euclid Chemical Co. (Jamie Elsey) 20416 Harper Avenue Harper Woods, MI 48225 (313) 886-9700
Sika	Sikadur 22-Lo Mod	Sika – US (Wesley Pringle) 673 Cherry Orchard Road Canton, MI 48188 (248) 866-8956
Unitex	Propoxy Type III DOT	Dayton Superior Corporation (Blair Oldfield) 1125 Byers Road Miamisburg, OH 45342 (224) 217-0447

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Ensure aggregate meets the gradation requirements in Table 2 and has a hardness of seven or higher on the Mohs hardness scale. Ensure aggregate is angular, consists of natural silica sand, basalt, or other nonfriable aggregate, and contains less than 0.2 percent moisture when tested in accordance with *ASTM C 566*.

**Table 2: Angular Aggregates Gradation Requirements**

Sieve Size	Minimum % Passing	Maximum % Passing
3/8	100	100
4	98	100
8	30	75
16	0	5
30	0	1
Pan	0	0
	Minimum	Maximum
Fineness Modulus	2.28	2.81

The aggregate shall be chosen from an approved supplier from Table 3.

**Table 3: Approved Aggregate Suppliers**

Earth Work Solutions - E.O. Sowerwine P.O. Box 1007, Gillette, WY 82717 (307) 682-4346
Flint Rock Products - Tammy Epps 800 S. College Road, P.O. Box 217, Picher, Oklahoma 74360 (918) 673-1737
Red Flint Sand and Gravel - Jim Danzinger 1 American Blvd, PO Box 688, Eau Clair, WI 54702 (800) 238-9139
Washington Rock Quarries, Inc. - Greg Lanphere 21711 103 <sup>rd</sup> Ave. Ct. E, Suite C302, Graham, WA 98338 (253) 377-3438
Imerys Refractory Minerals 100 Mansell Court East, Suite 615, Roswell, GA 30076 (770) 225-7923

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Provide a test data certification to the Engineer that the materials meet the requirements specified herein.

**c. Equipment.** For the epoxy overlay, provide a distribution system or distributor capable of accurately blending the epoxy resin and hardening agent, and uniformly and accurately applying the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area including 1 inch of the vertical face of curb/barrier. Provide a fine aggregate spreader capable of uniformly and accurately applying dry aggregate to cover 100 percent of the epoxy material. Provide a self-propelled vacuum truck.

For hand applications, provide calibrated containers, a Jiffy® type mixer, and notched squeegees which are suitable for mixing and applying the epoxy and aggregate.

For mechanical applications, provide mixing equipment that will automatically and accurately proportion the components in accordance with the manufacturer's recommendations, mix, and continuously place the epoxy overlay. Ensure the operation proceeds in such a manner that will not allow the mixed material to segregate, dry, be exposed or otherwise harden in such a way as to impair the retention and bonding of broadcasted aggregate.

**d. Construction.**

1. Surface Preparation. The Engineer will inspect patching and cleaning operations. The Engineer's approval is required prior to placement of the overlay. Protect utilities, drainage structures, curbs, bridge expansion joint devices, and any other structure within or adjacent to the epoxy overlay location from surface preparation activities and application of the surface treatment materials.

Do not perform surface preparation or installation of epoxy overlay on concrete patches less than 28 days of age. Ensure that traffic paint lines and tining are removed. Clean the entire concrete surface by abrasive blasting or shot-blasting to remove all materials that may interfere with the bonding or curing of the binder. The cleaned concrete surface must meet the *International Concrete Repair Institute Guideline 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair*, concrete surface profile (CSP) 7. Ensure mortar is sound and sufficiently bonded to the coarse aggregate, and presents a uniform CSP necessary for adequate bond. Use a vacuum truck or



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oil-free, moisture-free, air blast to remove all dust and other loose material. The Contractor's operations shall not create excessive dust. All containment methods shall be entirely effective. Brooms are prohibited. Remove any oil or other contamination after initial cleaning.

Ensure both courses of epoxy overlay are applied within 24 hours of the final cleaning, and prior to opening the area to traffic.

No visible moisture can be present on the surface of the concrete at the time of epoxy overlay application. Oil-free, moisture-free, compressed air may be used to dry the deck surface. Use a plastic sheet, left taped in place, in accordance with *ASTM D 4263* to identify moisture in the epoxy overlay area except as modified herein. Tape an 18 inch by 18 inch transparent polyethylene sheet (4 mil) to the deck every 500 square feet. Ensure all edges are sealed with tape that will stick to the concrete substrate. Leave the plastic sheet in place for a minimum of 3 hours or the manufacturer's recommended cure time for the conditions, whichever is longer. Ensure there is no moisture visible on the polyethylene sheet. Alternate methods to detect moisture must be approved by the Engineer.

Remove all debris from the neoprene glands of strip-seal style expansion joints. Protect the expansion joints, and any other areas not to be overlaid, from damage during preparation of the surface. Ensure the protection is removed once the epoxy and aggregate has been applied and prior to initial set. Ensure removing the protection is done soon enough to in no way harm the adjacent overlay. Ensure protection is applied again prior to the second coat and removed again prior to initial set as to not damage adjacent surfaces. Ensure the protection meets the approval of the Engineer.

2. Application. Ensure handling and mixing of the epoxy resin and hardening agent is performed in a safe manner to achieve the desired results in accordance with the manufacturer's recommendations for a two-coat system or as directed by the Engineer. Do not place epoxy overlay materials when the concrete surface is less than 50 degrees Fahrenheit (F) or ambient air temperature is forecast to fall below 50 degrees F within 8 hours of application. Do not place epoxy overlay materials if weather or surface conditions are such that the material cannot be properly handled, placed, and cured in accordance with the manufacturer's requirements and the specified requirements of traffic control.

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Apply the epoxy overlay in two separate courses in accordance with the manufacturer’s recommendation for a two-coat system with the following rate of application. Ensure the first course is no less than 2½ gallons per 100 square feet. Ensure the second course is no less than 5 gallons per 100 square feet.

Ensure application of aggregate to both the first and second courses is of sufficient quantity so the entire surface is covered in excess. Ensure no bleed through, or wet spots are visible in the overlay. Remove and replace any areas within course applications with wet spots or where epoxy has bled through.

After the epoxy mixture has been prepared for the overlay, immediately and uniformly apply it to the surface of the bridge deck with a notched squeegee. Apply the dry aggregate in such a manner as to cover the epoxy mixture completely within 5 minutes. Minimize all foot traffic on the uncured epoxy and ensure any foot traffic will only be done with steel spiked shoes approved by the Engineer. Cure each course of epoxy overlay until vacuuming or brooming can be performed without tearing or damaging the surface. Do not allow traffic or equipment on the overlay surface during the curing period. Remove by vacuuming or brooming all loose aggregate after the first course curing period. Immediately apply the next overlay course to complete the overlay. Ensure the minimum curing periods are in accordance with the manufacturer’s recommendations, as shown in Table 4, or as directed by the Engineer. Remove by vacuuming or brooming all loose aggregate after the second course curing period. Ensure all strip-seal style expansion joints are free of loose aggregate, epoxy and other debris resulting from overlay operations.

**Table 4: Anticipated Cure Time (Hours)**

Average Temperature of Deck, Epoxy and Aggregate Components, Degrees F	1st Course	2nd Course
<60		(a)
60-64	2	2
65-69	2	2
70-74	1.75	1.75
75-79	1.75	1.75
80-84	1.5	1.5
>85	1	1
a. Second course must be cured for minimum of 8 hours if the air temperature drops below 60 degrees F during the curing period, or per the manufacturer’s recommendations.		

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Plan and execute the work to provide the minimum curing periods as specified in Table 4, or other longer minimum curing periods as recommended by the manufacturer, prior to opening to public or construction traffic, unless otherwise permitted. Ensure first course applications are not opened to traffic. Remove any contamination, detrimental to adhesion of the second course, from the first course at Contractor’s sole expense prior to the application of the second course.

Remove and replace any areas damaged or marred by the Contractor’s operations in accordance with this special provision at no additional cost to the Department.

Provide the Engineer with all records including, but not limited to, the following for each batch provided:

- batch numbers and sizes,
- location of batches as placed on deck, referenced by stations,
- batch time,
- temperature of air, deck surface, epoxy components, including aggregates,
- loose aggregate removal time, and
- time open to traffic.

**e. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Epoxy Ovlly .....	Square Yard

**Epoxy Ovlly** includes all material, labor, and equipment required for cleaning, preparing and applying a two-coat epoxy overlay system including miscellaneous clean-up. Also included are all labor, material, and equipment costs necessary for completely cleaning strip-seal style expansion joints.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PRE-STRESSED CONCRETE BEAM REPAIR PREPARATION**

FTCH:VDG/COAA:MGN

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09/21/20

**a. Description.** This work consists of removing loose concrete adjacent to cracks, at locations specified by the Engineer, on damaged pre-stressed concrete beams. This work includes saw-cutting, hand-chipping, and water-blasting concrete to a depth of 2 inches, and cleaning the exposed existing reinforcement and pre-stressing steel.

**b. Materials.** None specified.

**c. Construction.** Perform work in accordance with Section 712 of the Standard Specifications for Construction except as modified herein. Saw-cut perimeter of the areas to be patched or filled to a depth of 1 inch. Remove concrete by hand-chipping or high-pressure water-blasting at locations specified by the Engineer. If manual pneumatic hammers are used, they must be limited to 30 pounds. Do not use pneumatic hammers within 1 inch of the prestressing strands. Use mauls or other tools approved by the Engineer in areas within 1 inch of the pre-stressing strands. Thoroughly clean scale, rust, and debris from all exposed reinforcing and pre-stressing steel using methods approved by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Hand-chipping, Special.....	Square Foot

This item of work shall be measured and paid for at the contract unit prices for the actual hand-chipping performed to the limits originally laid out and agreed to by the Engineer at the time the work began. If additional areas become evident during the performance of the work and are agreed to by the Engineer at the time of performance, then they shall also be included for payment. No payment will be made of “over-chipping” of areas to facilitate the Contractor’s operations. Payment for this item of work shall include all labor, materials, and equipment costs to complete the work as specified herein.

CITY OF ANN ARBOR  
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FOR  
**PRE-STRESSED CONCRETE BEAM REPAIR WITH  
LATEX MODIFIED CONCRETE**

FTCH/VDG:COAA:MGN

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09/03/19

**a. Description.** This work consists of placing latex modified concrete to repair the prepared portion of bridge beams. Preparation of the bridge beam will be according to the Pre-stressed Concrete Beam Repair Details plan sheet.

**b. Materials.** The materials must meet the following:

Portland Cement, Type 1 .....	901
Fine Aggregate, 2NS .....	902
Coarse Aggregate, 26A .....	902
Latex Admixture.....	903
Admixtures.....	903
Water.....	911

The beam patching mixture must meet the requirements for Patching Mixture Type C-L in Table 703-1 and Section 703 of the Standard Specifications for Construction. In addition to the requirements of Section 902, the coarse aggregate 26A, must be 100 percent crushed material.

**c. Construction.**

1. Equipment. Use equipment in accordance with Subsection 703.03.A of the 2012 MDOT Standard Specifications for Construction. Certification will be performed by MDOT.

2. Surface Preparation and Cleaning. Remove unsound concrete as shown on the plans, to the satisfaction of the Engineer, in accordance with the Special Provision for Pre-stressed Concrete Beam Repair Preparation. Following the removal of unsound concrete from the beam and prior to the placement of the repair, blast clean the entire repair surface with oil-free, compressed, air to produce a clean substrate surface. Complete the concrete repair within 48 hours of cleaning the substrate.

3. Mix, Place, Finish and Cure in accordance with Subsection 712.03.O of the Standard Specifications for Construction.

4. Temperature Limitations. The temperature limitations of Subsections 712.03.R and 712.03.S of the Standard Specifications for Construction apply.

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LATEX MODIFIED CONCRETE**

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**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Beam End Repair, Latex Modified Conc.....	Cubic Foot

**Beam End Repair, Latex Modified Conc** material will be measured and paid for based on volume in place. **Beam End Repair, Latex Modified Conc** includes all labor, material, and equipment costs associated with the work including, but not limited to, blast cleaning the beam, forming the repair area, pre-wetting, furnishing, placing, consolidating, finishing, and curing (96 hour) the repair concrete.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**MECHANICAL ANCHOR, ADJUST**

FTCH:VDG/COAA:MGN

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09/03/19

**a. Description.** This work consists of providing all materials, equipment, and labor for adjusting the existing mechanical anchors affixing the metal railing to the bridge concrete parapet rails.

**b. Materials.** Salvage and re-use existing anchors, elastomeric bearing pads, and galvanized steel shim plates. Where anchor rods are determined unsuitable for re-use by the Engineer, replace with stainless steel Hilti HAS M16 (length = 7.5 inch) threaded anchor rods.

**c. Construction.** Applies to each anchor rod on the bridge railing for Broadway over Depot Street and MDOT Railroad and Broadway over Huron River. Perform the work as shown on RAILING ANCHOR ADJUSTMENT DETAILS, Plan Sheet 46, and in accordance with the procedures listed herein:

*Removal and Preparation:*

1. Remove and salvage all existing anchor nuts and washers for each metal panel to be removed.
2. Salvage each metal rail panel and protect on-site or store off-site. Catalogue railing panels with a labeling system to ensure each railing panel is replaced in its exact location.
3. If stored on-site, leave a minimum of 5 feet of sidewalk free for pedestrian traffic.
4. Remove and salvage existing threaded rods and elastomeric leveling pads.
5. Remove and discard existing anchor sleeves.
6. Clean out existing anchor holes with high-pressure air (minimum 2400 psi).
7. Clean threaded rod with wire brush, and degreaser as needed, free of burrs and deleterious material.

*Reinstallation:*

8. Reinstall threaded rods such that there is a 2-inch projection above top of concrete.
9. Where an existing threaded rod is determined unsuitable for re-use by the Engineer, replace existing threaded rod with new threaded rod.
10. Do not reinstall sleeves.
11. Inject Hilti HIT\_RE 100 adhesive with caulking gun, filling void to top of concrete.
12. Tool adhesive leaving smooth surface at top of concrete, free of surface voids. Allow epoxy to cure to reach its design strength.
13. Reinstall elastomeric leveling pad.

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FOR  
**MECHANICAL ANCHOR, ADJUST**

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- 14. Reinstall metal rail panel over reinstalled anchor rods.
- 15. Torque anchor nuts to 60 ft-lb.
- 16. Repeat procedure for each metal rail panel.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Mechanical Anchor, Adjust, Complete.....	Each

**Mechanical Anchor, Adjust, Complete** includes all labor, materials, and equipment costs for removing, storing and reinstalling metal railing, removing existing anchor rods, sleeves and leveling pads, cleaning existing anchor rods and anchor holes, reinstalling anchor rods and leveling pads, and applying adhesive. Any anchor rods to be replaced shall be included in the pay item and will not be paid for separately.



CONCRETE COLUMN CAP, REMOVE AND RESET 712H

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
CONCRETE COLUMN CAP, REMOVE AND RESET

FTCH/VDG:COAA:MGN

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09/27/20

**a. Description.** This work consists of removing and salvaging existing concrete column caps where shown on the plan sheets, cleaning and preparing surface, re-mortaring the cap in place, and re-sealing with elastomeric sealant.

**b. Materials.** The materials must meet the following:

- Mortar .....ASTM C720 Type M
- Elastomeric Sealant..... ASTM C920 – 2-Component, Type M, Grade NS

The sealant (caulk) must be a 2-component, non-sag polyurethane-based elastomeric sealant such as Sikaflex-2c NS EZ Mix or Engineer-approved equivalent. Choose color to match mortar and as approved by the Engineer.

**c. Construction.**

1. Surface Preparation and Cleaning. Remove the existing concrete cap in a careful manner not to damage or chip the cap. Remove any remnants of the existing mortar on top of the column as well as any loose or deleterious material to the satisfaction of the Engineer. Clean the existing dowels free of any remaining mortar and loose material. Following the removal of cap and loose material, blast clean the entire top of column surface with oil free compressed air to produce a clean substrate surface. Complete the cap resetting within 24 hours of cleaning the substrate.

2. Mixing: Combine and thoroughly mix cementitious materials, water, aggregates and admixtures in a mechanical batch mixer. Comply with applicable ASTM standards and material manufacturer’s recommendations for mixing time and water content. Measure and batch materials by volume so that required proportions can be accurately controlled and maintained.

3. Mortar Application: Place 1/2” layer of mortar across entire top of concrete column. Leave 1/2” inset relief from face of column all around.

4. Cap Placement: Replace concrete cap in position over existing dowels. Placement shall be made to provide equal overhang on all four sides of the column, and so that the bottom of cap is level in both directions.

5. Sealant Application: Caulk apply 1/2” thick 2-component polyurethane elastomeric sealant over face of exposed mortar no less than 10 days after setting cap. Tool sealant to a smooth surface even with the column face.

CONCRETE COLUMN CAP, REMOVE AND RESET 712H

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
CONCRETE COLUMN CAP, REMOVE AND RESET

FTCH/VDG:COAA:MGN

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6. Temperature Limitations: As prescribed in the manufacturer's specifications.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Conc Column Cap, Remove and Reset .....	Each

**Conc Column Cap, Remove and Reset** will be paid for based upon each cap reset, and includes all labor, material, and equipment cost associated with the work to remove cap, prepare surfaces, mortar, reset cap in place and seal with polyurethane caulk.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
LIGHTING CONDUIT, ATTACH

FIS:JBD/COAA:MGN

1 of 2

09/27/20

**a. Description.** This work shall consist of providing all materials, equipment, and labor for re-attaching the existing 2" lighting conduit to the southern fascia beam on the Island Drive bridge over Traver Creek (SN 11081.) Also included in this item of work is the supporting the existing conduit until such time as it can be properly re-attached to the bridge.

Perform all work in accordance with Sections 713 and 716 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as described herein.

**b. Materials.** Provide materials in accordance with Section 712.02 of the standard specifications, except as shown on the plans and as specified herein.

Provide a hot-dip galvanized strap as shown on the plans to attach the existing conduit to the existing bridge beams. Submit catalogue information of the proposed pipe hangar to the Engineer for review and approval prior to use.

**c. Construction.** Construction shall be performed in accordance with the standard specifications, except as shown on the plans, and as specified herein.

Propose a drilling method to ensure no damage or cuts to existing reinforcing steel or pre-stressing strands in the fascia beam. Locate steel reinforcement using nondestructive testing in accordance with the contract or other Department-approved method before drilling holes. Drill holes of the required size and depth. Remove unsound concrete. Clean the hole with oil-free, compressed, air; brush and clean out the hole with air again.

Flush the abandoned hole where the existing conduit was previously anchored to the fascia beam with potable water and oil-free, compressed, air to the satisfaction of the Engineer, and fill with a non-shrink grout according to Section 702 of the Standard Specifications for Construction at no additional cost to the Department.

Complete all work so as not to damage the existing conduit. If any damage occurs, submit a plan for repairs to the Engineer for approval prior to the performance of the remedial work.

Installation shall only be performed when the structure is closed to pedestrian and vehicular traffic.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**LIGHTING CONDUIT, ATTACH**

FIS:JBD/COAA:MGN

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

**Pay Item**

**Pay Unit**

Lighting Conduit, Attach (SN 11081) ..... Lump Sum

This item of work shall include all needed labor, material, and equipment costs to complete the work as specified herein.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**BRIDGE RAILING, END POST**

FIS:JBD/COAA:MGN

1 of 4

09/27/20

**a. Description.** This work shall consist of providing all labor, materials, and equipment necessary to furnish, fabricate, and install new steel end posts to existing steel three-tube bridge railing. All work shall be performed in accordance with Sections 713 and 716 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as described herein.

**b. Materials.** Provide materials in accordance with Section 713.02 of the Standard Specifications, except as shown on the plans and as specified herein.

The posts are to be hot-dip galvanized and coated after fabrication. Galvanizing shall be performed in accordance with Section 707.03.C.17 of the 2012 MDOT Standard Specifications for Construction. Choose one of the coating systems below. The color of the top coat will be high-gloss black, Federal Standard No. 595b, Color Number 17038.

1. Carboline Company  
 Carbozinc 859 – Primer  
 Carboguard 893 – Intermediate Coat  
 Carboguard 133 LH – Top Coat
2. Sherwin Williams  
 Zinc Clad III HS – Primer  
 Macropoxy 646 – Intermediate Coat  
 Acrolon 218 HS – Top Coat
3. PPG Industries  
 Amercoat 68HS – Primer  
 Amercoat 399 – Intermediate Coat  
 Amercoat 450H – Top Coat

New stainless steel accessories, including anchor bolts, heavy-duty hollow wall anchors, nuts, and washers, conforming to ASTM F593 shall be furnished for attachment to the existing railing.

**c. Construction.** Construction shall be in accordance with the MDOT 2012 Standard Specifications, except as shown on the plans, and as specified herein.

The Contractor is responsible for producing all shop drawings. Field-verify dimensions prior to preparing the shop drawings. Shop drawings shall be created in accordance with Sections 104.02 of the 2012 MDOT Standard Specifications for Construction. For each

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**BRIDGE RAILING, END POST**

FIS:JBD/COAA:MGN

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submittal or resubmittal, the Contractor shall allow at least 14 calendar days from the date of submittal to receive the Engineer's acceptance or request for revisions. The Engineer's acceptance is required before beginning the work. Re-submittals may take less than 14 calendar days depending upon the magnitude of revisions requested. Required revisions will not be a basis of payment for additional compensation, extra work, or an extension of contract time. The Contractor shall include time for this entire review process in his/her CPM network schedule.

Surface preparation prior to galvanizing steel must conform to *SSPC-SP 10 Near White Blast Cleaning* and *SSPC-SP8 Pickling*. An alternate method for cleaning may be submitted to the Engineer for approval.

The thickness of applied hot-dip galvanizing is to be performed using measurement techniques described in SSPC-PA-2. Any areas with insufficient galvanizing thickness shall be repaired in accordance with subsection 716.03.E of the Standard Specifications for Construction with the exception that zinc-rich paint shall not be considered to be an acceptable method of repair of damaged galvanization.

After galvanizing, quenching shall be performed with a phosphate solution to help with paint adhesion. Clean and degrease surfaces after galvanizing using either an alkaline or solvent solution per the solvent manufacturer's directions and clean rags. Care must be taken to prevent removing too much of the zinc coating. After cleaning thoroughly rinse the surface with hot water and allow to dry completely.

After cleaning and degreasing profile the surfaces by lightly sweep-blasting. Care must be taken to prevent removing too much of the zinc coating. Particle size for a sweep blast of galvanized steel should range between 200-500 microns (8-20 mils). Aluminum/magnesium silicate or other proven material to remove oxide layer and roughen galvanized surfaces shall be used. A surface profile of 40-50 microns (1.5-2 mils) shall be achieved. Ensure surfaces are clean and dry prior to the painting application.

After profiling, coat the railing with one of the coating systems listed. Apply the coating(s) in accordance with the manufacturer's recommendations and MDOT required cure times.

During transportation, posts shall be carefully handled and packed with soft materials such as carpet scraps, cardboard, or similar material such that the new coating is not

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DETAILED SPECIFICATION  
FOR  
BRIDGE RAILING, END POST

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damaged. Lift railing elements with slings or other materials that will not scratch or damage the railing coating.

Field repair all minor scratches and abrasions which occur in the field and which do not compromise the galvanizing by cleaning, priming, and painting per section 716.03.D of the Standard Specifications for Construction. Field repair all areas of exposed steel at the weld locations and at locations of minor scratches and abrasions which compromise the galvanizing as per section 716.03.E of the Standard Specifications for Construction, except that zinc-rich paint shall not be used for the repair of damaged galvanized surfaces. Only zinc-based solder or sprayed zinc shall be used. Repair coating in accordance with section 716.03.D of the Standard Specifications for Construction. If over 0.5% of the total surface area, or over 10 square inches in any one area, of the railing's finish is damaged then the entire railing shall be sent back to the shop and recoated.

Complete all work so as not to damage the existing railing. If any damage occurs, submit a plan for repairs to the Engineer for approval prior to the performance of the remedial work.

Installation shall only be performed on portions of the structure closed to pedestrian traffic during respective work stages. The railing shall be fully installed prior to re-opening the portion of the structure to pedestrians.

**d. Measurement and Payment.** The completed work shall be paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Bridge Railing, End Post, Galvanized.....	Each

Payment for **Bridge Railing, End Post** includes all labor, material, and equipment costs required to furnish, fabricate, coat, and install the new posts as described herein and shown on the drawings. Also included is the cost associated with elastomeric bearing pads, field-drilling holes in existing steel railing elements to facilitate installation, and supplying stainless steel anchor bolts for attachment to the concrete base. All costs associated with installing the anchor bolts into the concrete base of the existing railing, including drilling and cleaning holes, filling holes with adhesive, placing anchor bolts, and testing will be paid for separately.

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DETAILED SPECIFICATION  
FOR  
**BRIDGE RAILING, END POST**

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Payment for **Bridge Railing, End Post** also includes all equipment, labor, and material required to produce shop drawings and any required revisions.

All costs associated with repair of railing damaged during these operations will be borne by the Contractor.



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DETAILED SPECIFICATION  
FOR  
**CONCRETE CURB AND GUTTER**

AA:MGN

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09/04/20

**a. Description.** This work shall consist of constructing concrete curb and gutter, and concrete curb openings in accordance with Section 802 of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

**b. Materials.** The materials shall meet the requirements as specified in Section 802.02 of the 2012 MDOT Standard Specifications and as specified herein:

All concrete curb and gutter specified herein shall be grade P1. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision and the contract documents.

**c. Construction Methods.** Curb and Gutter, Conc, Det F4, Special shall be constructed as shown in the MDOT Standard Plans R-30 series, as detailed in this specification, and as shown in the plans.

Expansion joints of the thickness shown on the details shall be placed as directed by the Engineer.

The preparation of the aggregate base course upon which the curb and gutter and drive openings are to be constructed shall be performed in accordance with the Special Provision entitled "Subbase and Aggregate Base".

The concrete curb and gutter shall not be constructed on a pedestal or a mound. The aggregate base course shall be constructed the full width of the stage or phase in which concrete curb and gutter or driveway opening is to be constructed.

The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic

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FOR  
CONCRETE CURB AND GUTTER

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determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed. The Engineer **must** be present at the time the beams are broken. If the Engineer is not present at the time the flexural beams are broke, the results shall be considered **invalid** and will not be used for the purpose of determining Open to Traffic strength.

**d. Measurement and Payment.** The completed work as measured shall be paid for at the Contract Unit Price for the following Contract (Pay) Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Curb and Gutter, Conc, Det F4, Special.....	Foot

The pay items will be measured in length by the foot and will be payment in full for all labor, equipment and material needed to properly complete this work.

At curb openings for sidewalk ramps, the concrete curb and gutter (without the curb face) will be measured and paid for at the contact unit price for curb and gutter.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**CONCRETE SIDEWALK AND ADA RAMPS**

AA:MGN

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02/06/20

**a. Description.** This work shall consist of constructing concrete sidewalk, ramp, or drive approaches of the types as indicated on the plan sheets, as detailed in the specifications, or as directed by the Engineer. All work shall be performed in accordance with Section 801 and 803 of the 2012 MDOT Standard Specifications for Construction and as specified herein.

All ADA ramps shall be installed with detectable warning tiles. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

**b. Materials.** The materials shall meet the requirements as specified in the 2012 MDOT Standard Specifications and as required herein.

The grade of concrete for all items covered by this Special Provision shall be grade P1 as specified in Section 601 of the 2012 MDOT Standard Specifications for Construction. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision.

**c. Construction Methods.** The Contractor is responsible to construct all sidewalk, sidewalk ramps, curbs, and all other concrete items within ADAAG compliance. All sidewalk and curb ramps must be constructed in accordance with MDOT Standard Detail R-28-J (or the version in effect at the time of Bid Letting.) The Contractor is solely responsible for ensuring compliance with ADAAG requirements.

Where concrete sidewalk and/or ADA compliant ramps are to be placed, they shall be placed on a minimum of 4 inches of Granular Material, Class II, compacted to 95% of its maximum dry density, or as shown on the appropriate typical section, whichever is thicker.

Prior to placing any concrete, the subgrade shall be completed and trimmed to final elevation. If a cold joint is required, the existing concrete is to be cleaned with compressed air to expose the aggregate in the concrete.

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DETAILED SPECIFICATION  
FOR  
CONCRETE SIDEWALK AND ADA RAMPS

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The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed. The Engineer **must** be present at the time the beams are broken. Any beams that are broke without the Engineer present will be considered **invalid** and the results will not be used for determining open to traffic strength.

All ADA ramps shall be installed with detectable warning units. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

**d. Measurement and Payment.** The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Sidewalk, Concrete, ___ inch, Special .....	Square Foot

The above items will be measured by area in square feet and be paid for at their respective contract unit price, which price shall be payment in full for all labor, equipment and material needed to accomplish this work. The unit price shall also include all costs associated with saw-cutting curbs to provide openings for ADA sidewalk ramps as indicated on the plans.

Excavation for placement of Granular Material, Class II, bedding material shall be included in the item of work "Sidewalk, Concrete, \_\_\_\_ inch, Special" and shall not be paid for separately.

Detectable warning units cast in place, shall be paid for in accordance with the Special Provision for Detectable Warning Tiles.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**DETECTABLE WARNING TILES**

FIS:JBD/MGN

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09/04/20

**a. Description.** This work shall consist of furnishing and installing cast in place detectable warning units in compliance to the Americans with Disability Act (ADA). All work shall be in accordance with the Special Provision for “Concrete Sidewalk, ADA Ramps, and Driveway Approaches,” Section 803 of the MDOT 2012 Standard Specifications for Construction, MDOT Standard Detail R-28-J (or most current version in effect at the time of bidding), as indicated on the plans, and as modified herein.

**b. Related Documents.** Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces

American Society for Testing and Materials (ASTM) Test Methods B117, C1028, D543, D570, D638, D695, D790, D2486, D2565, D5420, and E84.

**c. Submittals.** Submit manufacturer’s literature describing products, installation procedures and maintenance instructions. Provide cast-in-place detectable surface tiles and accessories as produced by a single manufacturer.

Samples for Verification Purposes: Submit two (2) tile samples minimum 6” x 8” of the kind proposed for use. Samples shall be properly labeled and shall contain the following information: Name of Project; Submitted by; Date of Submittal; Manufacturer’s Name; Catalog No.; and Date of Fabrication.

Material Test Reports: Submit current test reports from a qualified, independent, testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. The required tests listed elsewhere in this Special Provision shall be performed by a certified and qualified independent testing laboratory on a cast-in-place tactile warning system. All test reports submitted shall be certified by the testing laboratory and shall clearly state that all tests were completed within 5 years of the date of the submittal. The manufacturer shall certify in writing that the materials provided to the project are manufactured with the same materials and manufacturing procedures as those used in the materials on which the test were performed.

**d. Materials.** The detectable warning tiles shall be colored as Federal Number 22144 (frequently referred to as “Colonial Red” or “Brick Red”). The detectable warning tiles shall meet the following material properties, dimensions, and tolerances using the most current test methods:

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DETAILED SPECIFICATION  
FOR  
**DETECTABLE WARNING TILES**

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1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM- D570.
2. Slip Resistance: 0.80 minimum combined wet/ dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.
3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.
4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D638.
5. Flexural Strength: 24,000 psi minimum, when tested in accordance with ASTM D790.
6. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with ASTM D543 or D1308.
7. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.
8. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.
9. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry "GE" of ASTM D5420.
10. Accelerated Weathering of Tile when tested by ASTM-G155 or ASTM G151 shall exhibit the following result- $\Delta E < 6.0$  as well as no deterioration, fading or chalking of surface when exposed to 3000 hours minimum exposure.
11. Wheel Loading: The cast in place tile shall be mounted on a concrete platform with a 1/2" airspace at the underside of the tile top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8,000 lb individual wheel load and a 30% impact factor. The tile shall exhibit no visible damage at the maximum load of 10,400 lbs using AASHTO-HB17 single sheet HS20-44 loading "Standard Specifications for Highways and Bridges."
12. Salt and Spray Performance of Tile and Adhesive System when tested to

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**DETECTABLE WARNING TILES**

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ASTM-B117 not to show any deterioration or other defects after 100 hours of exposure.

**e. Construction Methods.** Installer’s Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for this Project.

The contractor shall follow manufacturer specifications for installation, except where they conflict with MDOT Standard Detail R-28-J (or most current edition in effect at the time of bidding), or other project requirements.

**f. Measurement and Payment.** The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Detectable Warning Tiles.....	Square Foot

The unit price for this item shall include all labor, material, and equipment costs required to complete the work.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**GUARDRAIL ANCHORAGE, BRIDGE, DETAIL M1, MODIFIED**

FIS/JBD:COAA:MGN

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09/27/20

**a. Description.** This work consists of providing all labor, materials, and equipment required to construct a Guardrail Anch, Bridge, Det M1, Modified, of specified type, as detailed on the plans, in accordance with applicable details and notes in Standard Plan R-67 Series and B-22 Series, as specified in this Detailed Specification, and as directed by the Engineer.

**b. Materials.** Provide materials in accordance with Sections 711.02 and 807.02 of the Standard Specifications for Construction.

**c. Construction.** Construct guardrail anchorage in accordance with Sections 711.03.E and 807.03 of the Standard Specifications for Construction and Standard Plan R-67 Series and B-22 Series, except utilize 9-foot-long guardrail posts in lieu of standard guardrail posts.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the Contract Unit Price using the following pay item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Guardrail Anch, Bridge, Det M1, Modified .....	Each

Payment for **Guardrail Anch, Bridge, Det M1, Modified** shall include all labor, material, and equipment costs to install the guardrail anchorage as indicated on the plan sheets, as detailed in this specification, and as directed by the Engineer. Also included is furnishing and installing 9-foot long guardrail posts for the anchorage system.



CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
GUARDRAIL POST, HAND DUG

FIS/JBD:COAA:MGN

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09/27/20

**a. Description.** This work consists of hand-digging holes to place guardrail posts that are in close proximity to underground utilities as indicated on the plans and as directed by the Engineer. Perform this work in accordance with Sections 107.12 and 807 of the 2012 MDOT Standard Specifications for Construction.

**b. Materials.** None.

**c. Construction.** Install posts to the proper depth and alignment as required by the contract by means of hand-digging holes within 2 feet of a buried underground utility. Once the holes have been excavated to the proper depth, backfill and compact sound earth around the posts in 12-inch layers. Ensure that the existing underground utility is not damaged during the excavation or post installation process.

**d. Measurement and Payment.** The completed work, as described herein, will be measured and paid for at the Contract Unit Price using the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Guardrail Post, Hand-dug .....	Each

**Guardrail Post, Hand-dug** will include all labor, material, and equipment needed to excavate a hole for the installation of a guardrail post(s). Also included is the backfilling and compaction the sound earth around the guardrail post.

The furnishing of the guardrail post shall be considered to be included in the payment for the guardrail item being installed.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**FENCE, CHAIN LINK, VINYL-COATED**

FIS:JD/COAA:MGN

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09/30/19

**a. Description.** This work shall consist of furnishing and erecting vinyl-coated chain link fence. All work shall be performed in accordance with Section 808 of the 2012 Michigan Department of Transportation Standard Specifications for Construction except as specified herein.

**b. Materials.** Materials shall meet the requirements as outlined below. The fabric height shall match height of fence. The vinyl color shall be black.

The fence framework, fabric, and related accessories shall be a complete system as specified herein. Acceptable fence system manufacturers are; Allied Tub & Conduit Corporation; Anchor Fence, Inc.; Cyclone Fence/United States Steel Corporation; and, Semmerling Fence and Supply, Inc. The use of systems of other manufacturers equal to those specified may be used if prior approval is granted by the Engineer.

The Contractor may be required to submit shop drawings, manufacturer's catalog cuts with printed specifications, and framework and fabric samples to the Engineer for review and approval, a minimum of seven days prior to the proposed delivery of materials. The shop drawing submittal shall include complete details of fence construction, fence height, post spacing, dimensions and unit weights of framework, and concrete footing details. The framework sample shall include one 12" long piece of each size. The fabric sample shall be one 12" square piece of fabric.

Fabric:

Vinyl-coated fence fabric shall be 11 GA galvanized (0.30 oz/sf) steel core, or aluminized (0.40 oz/sf) steel core, and 10 GA minimum OD including vinyl coating. The fence fabric shall have a black fused/bonded vinyl coating in accordance with ASTM F934. The coating shall be applied prior to the weaving of the fabric, so as not to encapsulate joints. The fabric shall meet or exceed 850 pounds breaking strength.

Galvanized steel core chain link fence fabric shall be 9 GA steel, hot-dipped galvanized (1.2 oz of zinc/sf of fabric). The coating shall be applied prior to the weaving of the fabric, so as not to encapsulate joints. The fabric shall meet or exceed 1,200 pounds breaking strength.

The fabric shall be woven in a 2-3/8" diamond mesh. The top and bottom selvages shall be knuckled, unless otherwise specified. The loops of the knuckled selvages shall be closed or nearly closed with a space not exceeding the diameter of the wire.

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 FOR  
**FENCE, CHAIN LINK, VINYL-COATED**

FIS:JD/COAA:MGN

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Fence fabric heights up to 12 feet shall be one-piece, with no horizontal joint.

Posts and Rails:

Posts and rails shall be Schedule 40 steel pipe meeting the requirements of ASTM F 1083, except as modified herein, hot-dipped galvanized (1.8 oz/sf of zinc) in accordance with ASTM A 120. All posts and rails shall have a black fused/bonded vinyl coating, 10-15 mils in thickness, unless otherwise specified.

All posts and rails shall be straight, true to section, and conform to the following weights:

Nominal Pipe Size	Approximate Pipe O.D.	Weight before galvanizing (lbs/lf)
1"	1-5/16"	1.68
1-1/4"	1-5/8"	2.27
1-1/2"	1-7/8"	2.72
2"	2-3/8"	3.65
2-1/2"	2-7/8"	5.79
3"	3-1/2"	7.58
3-1/2"	4"	9.11
4"	4-1/2"	10.79
6"	6-5/8"	18.97

Fittings and Fasteners:

All fittings and fasteners shall be pressed steel or malleable iron (unless otherwise specified herein), hot-dipped galvanized (1.2 oz/sf of zinc), conforming to ASTM F 626. For vinyl-coated fence installations, all fittings and fasteners shall be black vinyl-coated with a continuous coating coverage of 5-7 mils in thickness.

Caps shall fit snugly over posts to exclude moisture. The inside diameter of caps shall accommodate the vinyl coating of the posts and caps. Cone-type caps shall be used for terminal, turning, and gate posts; loop-type caps shall be used for line posts.

All rail ends shall be capped.

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DETAILED SPECIFICATION  
FOR  
**FENCE, CHAIN LINK, VINYL-COATED**

FIS:JD/COAA:MGN

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Top rail sleeves shall be tubular steel, 0.051 thickness x 6" long (minimum), expansion type, with internal spring when required.

Tension bars (stretcher bars) shall be 3/4" wide x 3/16" steel strips.

Tension bands and brace bands shall be 12 GA x 3/4" wide pressed steel, with beveled edges.

Truss rods shall be 3/8" diameter merchant quality steel rod with turnbuckle or other adjustment means.

Tension wire shall be marcelled 7 GA steel wire, with zinc coating (0.80 oz/sf minimum) conforming to ASTM A 824.

Tie wires shall be aluminum, 9 GA, alloy 1100-H4 or equal.

Hog rings shall be 11 GA steel wire, with zinc coating (0.80 oz/sf minimum).

Clamps shall be 12 GA pressed steel, secured with 5/16" diameter carriage bolts.

Bolts, nuts, and miscellaneous hardware shall be ASTM A307, Grade A, thermally color-coated or hot-dipped galvanized to match the fence fabric.

Gates:

Gate frame assemblies shall meet the fence specifications, except as modified herein. Gate posts shall be equal to terminal post sizing, and gate framework shall be equal to rail sizing.

For vinyl-coated installations, gate panels up to 4 ft in width by 10 ft in height shall receive a continuous vinyl color-coating to match the fence fabric, or shall be assembled in such a manner that welding is not required. For larger panels, all welded surfaces shall be sanded smooth and painted with an epoxy paint (if fabric is vinyl-coated) or a galvanized finish to match the fabric.

The Contractor shall provide one pair of 180° industrial offset hinges per leaf, and one fork latch for single swing gates or one industrial latch for double swing gates. The latches shall have a padlock eye, which shall be operable from either side of the gate.

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**FENCE, CHAIN LINK, VINYL-COATED**

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The Contractor shall also provide one drop rod per leaf and sleeves set in Grade P2 concrete to hold the rods in both the closed and 90° open positions.

**c. Methods of Construction.** The fence shall be installed in accordance with the requirements of this Detailed Specification, the details as shown on the plans, and as directed by the Engineer.

General:

Fence installation shall be in accordance with ASTM F 567, except as modified herein. The fence shall be installed at the height indicated on the Plans.

All vinyl coated materials shall be handled with care. Any damage to the vinyl-coating shall be repaired by the Contractor to the satisfaction of the Engineer, or at the Engineer's direction the damaged item(s) shall be replaced by the Contractor, all at the Contractor's expense.

The fence shall be stepped at all grade changes.

Framework:

Fence posts to be installed in retaining wall, sidewalk, or grass, as specified on the plans, shall not be paid for differently, but shall be included in the cost of the fence. Details for differing post installations are as shown in the plans.

Terminal, turning, gate, and line posts shall be set plumb in concrete footings as indicated on the Details. Plumb shall mean one inch in six feet. The top of the concrete footing shall be 2" above the adjacent finish grade, and shall be sloped so as to direct water away from the post. Terminal, turning, and gate posts shall be braced back to adjacent line posts with horizontal brace rails and diagonal truss rods.

The top rail shall be installed through the line post loop caps, and fastened at the terminal posts. Sections shall be connected with sleeves to form a continuous rail between terminal posts. The sleeves shall be spaced 20 ft center-to-center, with every fifth sleeve containing a heavy spring to take up expansion and contraction of the top rail.

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The middle and bottom rails shall be joined to the line posts with boulevard clamps. The brace rails and truss rods shall be installed and adjusted prior to the stretching of the fabric.

Tension Wire:

A top and bottom tension wire shall be provided, and stretched between the terminal, turning, and gate posts, 6" above the finish grade (bottom wire), and threaded through the top row of the fabric diamonds (top wire). They shall be securely fastened to the outside of all line and terminal posts. The top and/or bottom tension wire may be omitted when a top or bottom rail is provided, respectively, unless otherwise specified.

Fabric:

The fabric shall be pulled taut to provide a smooth, uniform appearance, free from sag. The bottom selvage shall be 2" above the finish grade. The fabric shall be fastened to the terminal, turning, and gate posts with tension bars threaded through the fabric and secured with tension bands at maximum 15" intervals, including one at the top and bottom of the fabric. The fabric shall also be tied to the line posts with tie wires spaced at maximum 12" intervals, including one at the top and bottom of the fabric. The fabric shall be tied to all horizontal rails with tie wires spaced at maximum 24" intervals. The fabric shall be attached to the bottom tension wire (if applicable) with hog rings at maximum 24" intervals.

Fasteners:

Nuts for fittings, bands and hardware bolts shall be installed on the inside of the fence. The ends of the bolts shall be peened, or the threads scored, to prevent their removal.

Gates:

Gates shall be hung and adjusted to operate properly. The bottom of the gate frame shall be 2" above the finish grade. The top of the gate shall align with the top rail of the fence.

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Condition of Finished Fence:

The finished fence shall be substantially true to line, taut, and solid at all points. All surplus excavated material and other debris resulting from the construction shall be promptly removed from the jobsite and properly disposed of off-site.

The fence shall not be stepped on any wall or barrier.

**d. Measurement and Payment.** The completed work shall be paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Fence, Chain Link, __ inch, Vinyl-Coated.....	Foot

“Fence, Chain Link, \_\_ inch, Vinyl-Coated” shall be measured in place for payment by the foot and shall include all labor, materials and equipment necessary to complete the work.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**RIPRAP, MODIFIED**

FIS:JBD/COAA:MGN

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**a. Materials.** The work shall be completed in accordance with Section 813 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plan sheets, and as modified herein.

The riprap shall be an Engineer-approved, consistent gray-colored, natural stone, or crushed limestone. The Contractor shall provide a sample of the stone to the Engineer for review. The use of broken concrete shall not be allowed under any circumstance.

**b. Measurement and Payment.** The completed work shall be paid for at the Contract Unit Price for the following Contract (Pay) Item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Riprap, Plain, Modified .....	Square Yard
Riprap, Heavy, Modified .....	Square Yard

**“Riprap, Plain, Modified”** and **“Riprap, Heavy, Modified”** shall be measured in place by the square yard and include all labor, materials, and equipment necessary to perform the work as specified above.



CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**TURF ESTABLISHMENT**

FIS:JBD/COAA:MGN

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09/27/20

**a. Description.** This work shall consist of furnishing and placing 4” of Engineer-approved topsoil, hydroseeding lawn areas, and furnishing and placing mulch blankets as indicated on the plans, as detailed in the specifications, or as directed by the Engineer.

The related work of preparing the earth bed, furnishing, and placing the topsoil, furnishing the seed mixtures, furnishing the fertilizer, sowing the seed, furnishing and installing the mulch blanket and watering shall conform to the requirements of this Special Provision and Section 816, Turf Establishment, of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction.

**b. Materials.** The materials shall meet the requirements specified in the 2012 MDOT Standard Specifications for Construction except as specified herein:

- Seed shall be fresh, clean, dry, new-crop seed complying with the AOSA’s “Rules for Testing Seed”, tested for purity and germination tolerances.

Variety	Proportion by Weight	Purity	Germination
Baron Kentucky Bluegrass	25%	90	80
Kentucky Bluegrass 98/80	15%	98	80
Park Kentucky Bluegrass	15%	90	80
Omega III Perennial Ryegrass	20%	98	90
Creeping Red Fescue	25%	95	90

Maximum weed content shall be 0.30%.

- Fertilizers shall be a Class A. The percentages by weight shall be at a minimum 10N-10P-10K or as required and approved by the Engineer.
- The seed, fertilizer, and adhesive (mulch binder) shall be mixed together and applied at one time.
- Water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances.

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FOR  
**TURF ESTABLISHMENT**

FIS:JBD/COAA:MGN

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09/27/20

Mulch Blanket:

Straw/jute blanket shall be constructed with a 100% agricultural straw matrix with jute and cotton netting on top and bottom, be 100% biodegradable, and have a typical functional longevity of 12 months. Use 6-inch long biodegradable stakes 24 inch O.C. or as directed by the Engineer. Plastic weaving will not be permitted.

**c. Maintenance and Acceptance.** It is the responsibility of the Contractor to establish a dense, vigorous, weed-free lawn of permanent grasses, free from mounds and depressions prior to final acceptance and payment of this project. Any portion of a seeded area that fails to show a uniform germination, shall be re-seeded. Such re-seeding shall be at the Contractor's expense and shall continue until a dense, vigorous and weed free lawn is established.

The Contractor shall maintain all lawn areas until they have been accepted by the Engineer. Lawn maintenance shall begin immediately after the grass seed is in place, and shall continue until final acceptance with the following requirements:

- Lawns shall be protected and maintained by watering, mowing, and reseeding as necessary, until the period of time when the final acceptance and payment is made. The Contractor shall establish a uniform, dense, vigorous, and weed-free stand of the specified grasses. Maintenance includes, but is not limited to; deposition of additional topsoil; re-seeding; watering; fertilizing; mowing, and any other work as required to correct all settlement, erosion, germination, and establishment issues until the date of final acceptance by the Engineer.
- Damage to seeded areas resulting from erosion shall be repaired by the Contractor at the Contractor's expense. Scattered bare spots in seeded areas will not be allowed over three (3) percent of the area nor greater than 6"x 6" in size.

When the above requirements have been fulfilled, the Engineer will accept the lawn.

**d. Measurement and Payment.** The completed work shall be paid for at the Contract Unit Price for the following Contract (Pay) Items:

CITY OF ANN ARBOR  
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TURF ESTABLISHMENT

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<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Topsoil Surface, 4-inch .....	Square Yard
Hydroseeding.....	Square Yard

"Topsoil Surface, 4-inch" and "Hydroseeding" will be measured by area in square yards and will be paid for at the contract unit prices which shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

Topsoil placement shall occur at the locations called for on the plans or, as directed by the Engineer. The unit price "Topsoil Surface, 4-inch" shall include the grading of the area to receive the topsoil, preparing the earth bed, spreading and raking the topsoil to provide a uniform surface free of large clods, lumps, rocks, brush, roots, or other deleterious materials, as determined by the Engineer.

The hydroseeding shall be placed on all lawn areas as called for on the plans, and shall include furnishing and installing seed, fertilizer, mulch blankets, and all required watering necessary for the establishment of the turf. Watering will not be paid for separately.

Any damage or soiling to signs, fences, trees, pavements, or structures shall be repaired and/or cleaned by the Contractor at the Contractor's sole expense.

After initial placement of the topsoil and hydroseed mixture(s), fifty (50) percent of the total quantity placed for each item will be certified for payment. The remaining fifty (50) percent of the total quantities will be held by the Engineer until such time as all lawn areas have been established and accepted by the Engineer.

Final acceptance shall occur no sooner than June 15<sup>th</sup> of the year after the year in which the lawn areas were initially planted during the previous spring planting season; or, final acceptance will occur no sooner than November 1<sup>st</sup> of the year after the year in which the lawn areas were initially planted during the previous summer planting season.

In no case shall lawn areas be accepted in the same year in which they were planted.

# **APPENDIX**



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

**Issued To:**

**City of Ann Arbor  
Attn: Michael Nearing  
100 North 5th Avenue, #4  
Ann Arbor, Michigan 48104**

**Permit No: WRP018786 v.1  
Submission No.: HNR-4MT7-CXXFH  
Site Name: 81-Fuller Road Bridges over Huron River-Ann Arbor  
Issued: October 2, 2019  
Revised:  
Expires: October 2, 2024**

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

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Part 301, Inland Lakes and Streams                                    | <input type="checkbox"/> Part 323, Shorelands Protection and Management |
| <input type="checkbox"/> Part 303, Wetlands Protection  | <input type="checkbox"/> Part 325, Great Lakes Submerged Lands          |
| <input type="checkbox"/> Part 315, Dam Safety   | <input type="checkbox"/> Part 353, Sand Dunes Protection and Management |
| <input checked="" type="checkbox"/> Part 31, Water Resources Protection (Floodplain Regulatory Authority) |   |

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

**Authorized Activity:**

Dredge approximately 98 cubic yards of material from an area 110 feet by 8 feet to a depth of 3 feet by mechanical means, from the Huron River. All dredge material shall be disposed of in an upland area. Place approximately 110 cubic yards of riprap shore protection within the dredged area to protect bridge abutments. All work is to facilitate repairs to the Fuller Road bridge.

All work shall be completed in accordance with the approved plans dated October 2, 2019 and specifications of this permit.

**Waterbody Affected: Huron River  
Property Location: Washtenaw County, City of Ann Arbor, Town 02S, Range 06E, Section 21**

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

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.

**EGLE-WRD  
WRP018786 v1.0  
Approved  
Issued On:10/02/2019  
Expires On:10/02/2024**

- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

- S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

#### **Site Isolation**

1. Prior to commencement of any dredging authorized by this permit, the entire dredged area shall be enclosed with a turbidity curtain to prevent off-site siltation. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of the project and shall be left in place after completion of dredging until all disturbed sediments have settled. In the event there is a problem with the turbidity curtain, and a failure to contain the sediments from leaving the project site, the project shall be immediately stopped, evaluated, and appropriate measures shall be taken to stop the release of sediments/turbidity. The permittee, agent or contractor shall immediately notify the Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 and EGLE representative at 517-416-7001 or by email at LetoskyM@Michigan.gov, on the turbidity curtain failure and the measures being taken to stop the release of sediments/turbidity.
2. No work or dredging within the water authorized by this permit is allowed from March 1<sup>st</sup> to June 30<sup>th</sup> due to critical spawning, migration, and/or recreational use periods.
3. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity, and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.

#### **Dredging**

4. Dredged material, including organic and inorganic sediment, vegetation, and other material removed from bottomlands, shall not be placed in any wetland, floodplain or critical dune, or below the ordinary high water mark of any inland lake, Great Lake, or stream. Dredged material placed on upland shall be stabilized in such a manner to prevent erosion of any material into any waterbody, including wetlands, or floodplain.

5. The permittee is advised of other potential requirements and legal liabilities under other statutes for placement of dredge material on upland and is responsible for compliance with all applicable local, state, and federal regulations. Please review the information under Dredging Documents at the attached link: [https://www.michigan.gov/deq/0,4561,7-135-3312\\_4123-14201--,00.html](https://www.michigan.gov/deq/0,4561,7-135-3312_4123-14201--,00.html)

### **Riprap**

6. All riprap shall be properly sized based on wave action and velocity, and shall consist of natural field stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). Broken concrete is not allowed.
7. The placement of riprap as proposed does not establish a new shoreline nor shall it be construed to do so. The riprap is authorized as a protective structure placed for the explicit purpose of protecting the shoreline at the landward side of the riprap. Consideration of any future construction shall be based on the shoreline existing prior to riprap placement as authorized by this permit.
8. Upon completion of your project, you must complete and return the enclosed card and photos taken from each of the same vantage points showing the "as-built" condition of your project.
9. The completion card and required photos shall be forwarded to the EGLE's Water Resources Division, 301 East Louis Glick Highway, Jackson, Michigan 49201, within 30 days of completion of the project. Staff will use such pictures for monitoring compliance with your permit. Failure to submit these photos is an event of noncompliance.
10. All fill/backfill shall consist of clean inert material which will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

### **Floodplain**

11. The design flood or one percent (1%) annual chance (100-year) floodplain elevation at this location on Huron River is 760.2 feet N.A.V. Datum 1988.
12. Any other filling, grading, or construction within the 100-year floodplain will require a separate EGLE permit before starting the work.
13. The structure(s) shall be firmly anchored to prevent flotation or lateral movement.
14. All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed on upland (non-wetland, non-floodplain or non-bottomland), prepared for stabilization, and stabilized with sod and/or seed and mulch in such a manner to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.
15. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
16. Fill shall not be placed to prevent surface water drainage across the site. Site runoff shall be directed to public or natural drainage ways and not unnaturally discharged onto adjacent properties.



**General Conditions**

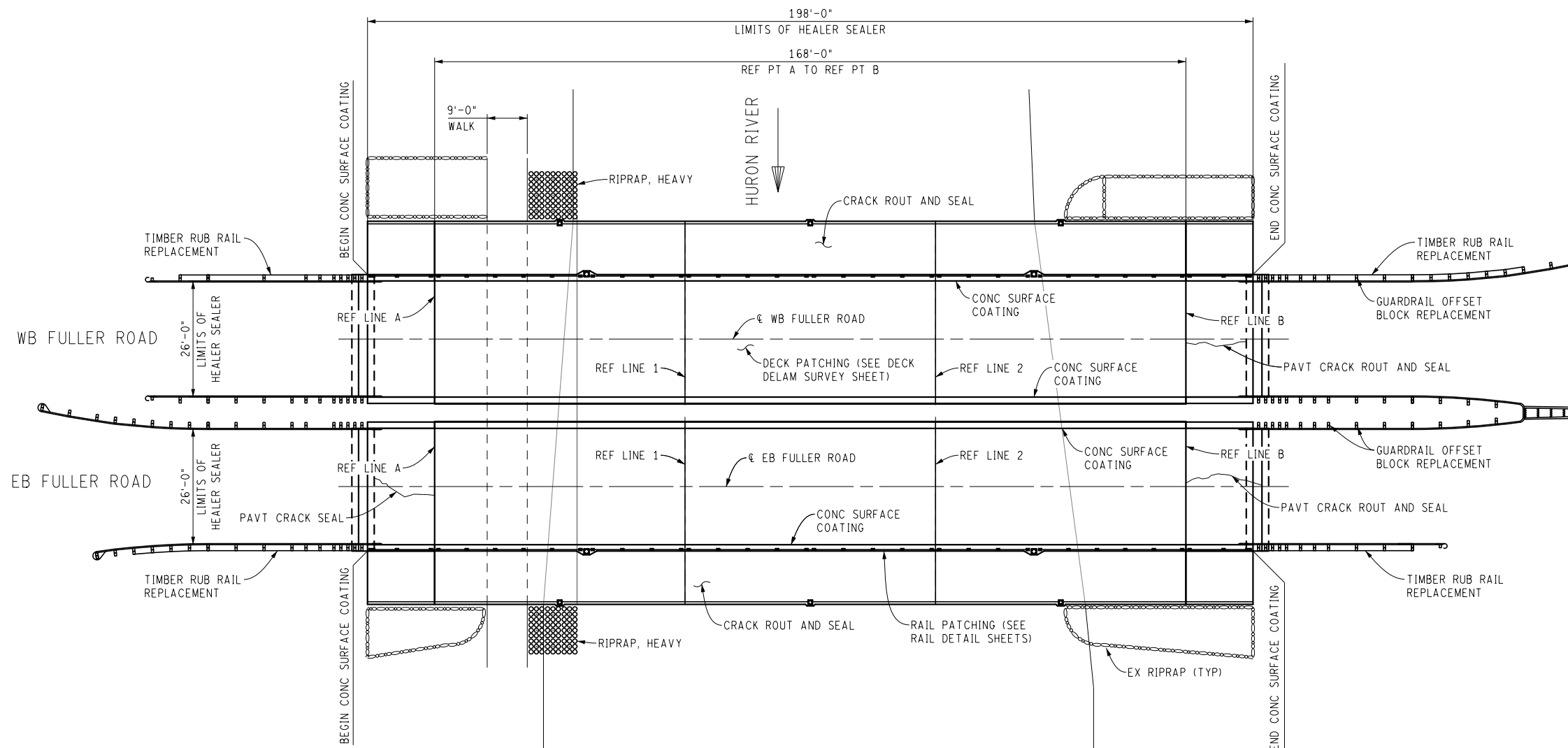
17. Authority granted by this permit does not waive permit or program requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit [www.mi.gov/deqstormwater](http://www.mi.gov/deqstormwater) and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
18. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
19. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
20. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
21. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
22. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.



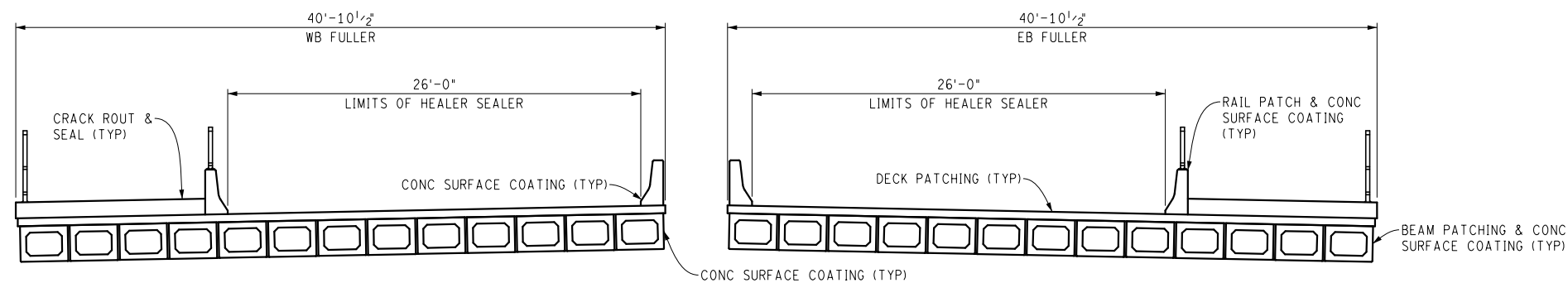
Issued By: \_\_\_\_\_

Melissa Letosky  
Jackson District Office  
Water Resources Division  
517-416-7001

cc: City of Ann Arbor Clerk  
Ann Arbor City Environmental & Developmental Coordination  
Mr. Vincent Guadagni, Fishbeck, Thompson, Carr, and Huber, Inc.



PLAN



DECK SECTION

(LOOKING EAST)

FULLER ROAD OVER HURON RIVER

FILE NAME: Z:\2019\180381\CAD\CAD\FULLER\_GPSTR\_001.DGN



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR  
PUBLIC SERVICE  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-1647  
734-794-4110  
www.a2gov.org



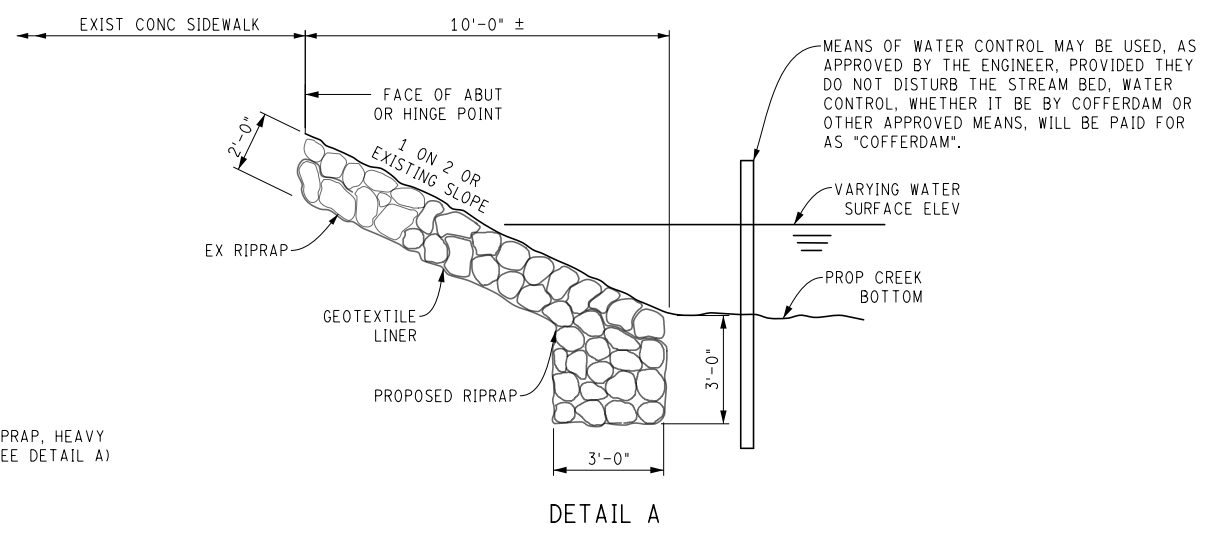
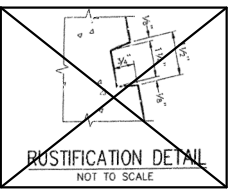
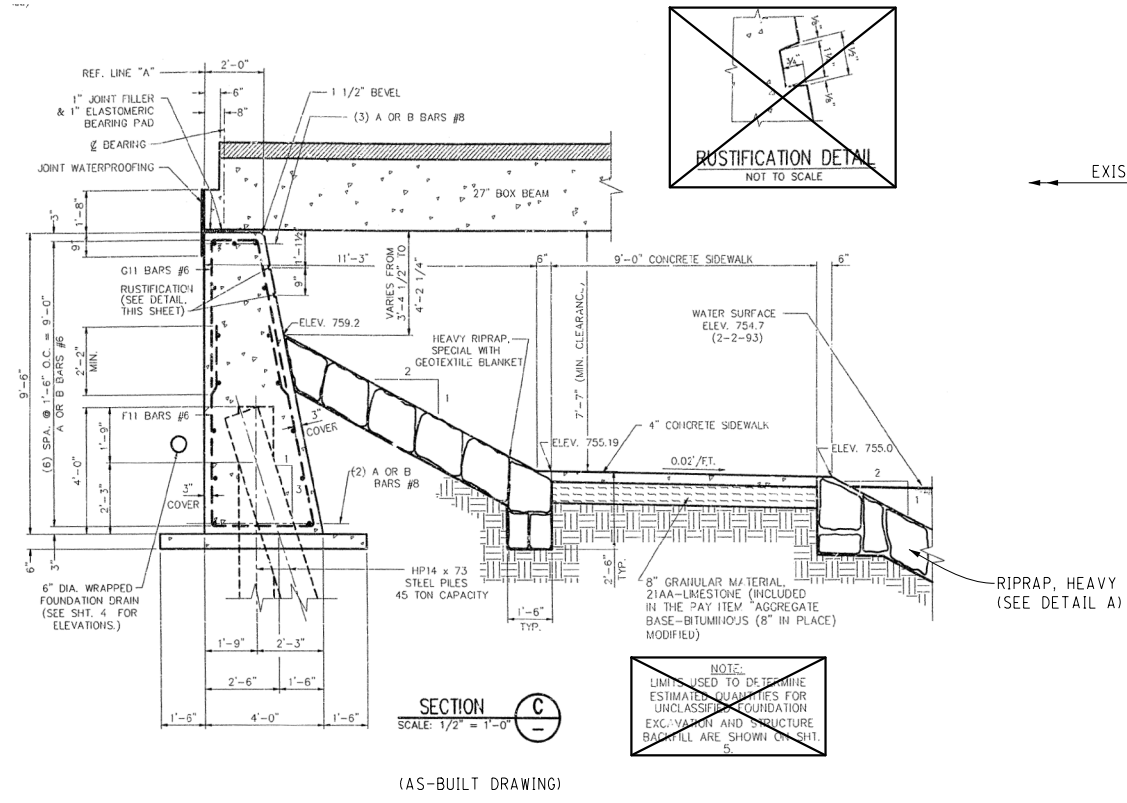
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
CITY OF ANN ARBOR 2019 BRIDGE  
CAPITAL PREVENTIVE MAINTENANCE REPAIRS  
GENERAL PLAN OF STRUCTURE

SCALE: NO SCALE  
DRAWING No. 2019-030

Approved  
WRP018786 v1.0

Issued On: 10/02/2019  
Expires On: 10/02/2024

FILE NAME: Z:\2019\190381\CAD\MISC\_DETAILS\_002.DGN



### RIPRAP DETAILS

(FULLER ROAD WEST ABUTMENT)

TOE OF RIPRAP SHALL BE AT OR BELOW EXISTING STREAMBED/SLOPE ELEVATION.

AN APPROPRIATE METHOD OF WATER DIVERSION FOR PLACING RIPRAP SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

THE RIPRAP SCHEME SHOWN IS A MINIMUM REQUIREMENT FOR SCOUR. BROKEN CONCRETE SHALL NOT BE USED FOR RIPRAP. ONLY NATURAL, ROUNDED STONES SHALL BE USED.



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR  
PUBLIC SERVICE  
301 EAST HURON STREET  
ANN ARBOR, MI 48106  
734-794-6477  
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
CITY OF ANN ARBOR 2019 BRIDGE  
CAPITAL PREVENTIVE MAINTENANCE REPAIRS  
RIPRAP DETAILS

SCALE: NO SCALE  
DRAWING No. 2019-030

FULLER ROAD OVER HURON RIVER

ECHE VRL  
WRP018786 v1.0  
Approved

Issued On: 10/02/2019  
Expires On: 10/02/2024

# CITY OF ANN ARBOR PREVAILING WAGE DECLARATION OF COMPLIANCE

The "wage and employment requirements" of Section 1:320 of Chapter 14 of Title I of the Ann Arbor City Code mandates that the city not enter any contract, understanding or other arrangement for a public improvement for or on behalf of the city unless the contract provides that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. Where the contract and the Ann Arbor City Code are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used. Further, to the extent that any employees of the contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with section 1:320 of Chapter 14 of Title I of the Code of the City of Ann Arbor, employees shall be paid a prescribed minimum level of compensation (i.e. Living Wage) for the time those employees perform work on the contract in conformance with section 1:815 of Chapter 23 of Title I of the Code of the City of Ann Arbor.

At the request of the city, any contractor or subcontractor shall provide satisfactory proof of compliance with this provision.

The Contractor agrees:

- (a) To pay each of its employees whose wage level is required to comply with federal, state or local prevailing wage law, for work covered or funded by this contract with the City,
- (b) To require each subcontractor performing work covered or funded by this contract with the City to pay each of its employees the applicable prescribed wage level under the conditions stated in subsection (a) or (b) above.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the wage and employment provisions of the Chapter 14 of the Ann Arbor City Code. The undersigned certifies that he/she has read and is familiar with the terms of Section 1:320 of Chapter 14 of the Ann Arbor City Code and by executing this Declaration of Compliance obligates his/her employer and any subcontractor employed by it to perform work on the contract to the wage and employment requirements stated herein. The undersigned further acknowledges and agrees that if it is found to be in violation of the wage and employment requirements of Section 1:320 of the Chapter 14 of the Ann Arbor City Code it shall has be deemed a material breach of the terms of the contract and grounds for termination of same by the City.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Address, City, State, Zip

\_\_\_\_\_  
Phone/Email address

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

**CITY OF ANN ARBOR**  
**LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE**

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here  No. of employees\_\_*

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.91/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$15.51/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

**Check the applicable box below which applies to your workforce**

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

\_\_\_\_\_  
 Company Name

\_\_\_\_\_  
 Street Address

\_\_\_\_\_  
 Signature of Authorized Representative

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 City, State, Zip

\_\_\_\_\_  
 Print Name and Title

\_\_\_\_\_  
 Phone/Email address

**CITY OF ANN ARBOR  
LIVING WAGE ORDINANCE**

**RATE EFFECTIVE APRIL 30, 2020 - ENDING APRIL 29, 2021**

**\$13.91 per hour**

If the employer provides health  
care benefits\*

**\$15.51 per hour**

If the employer does **NOT**  
provide health care benefits\*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

## **ENFORCEMENT**

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

\* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

**The Law Requires Employers to Display This Poster Where Employees Can Readily See It.**

**For Additional Information or to File a Complaint contact  
Colin Spencer at 734/794-6500 or [cspencer@a2gov.org](mailto:cspencer@a2gov.org)**



<b>Vendor Conflict of Interest Disclosure Form</b>
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All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor’s conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee’s immediate family member has an ownership interest in vendor’s company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor’s Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

<b>Conflict of Interest Disclosure*</b>	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <hr/> <input type="checkbox"/> Interest in vendor’s company <input type="checkbox"/> Other (please describe in box below)

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

<b>I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:</b>		
<b>Vendor Name</b>	<b>Vendor Phone Number</b>	
<b>Signature of Vendor Authorized Representative</b>	<b>Date</b>	<b>Printed Name of Vendor Authorized Representative</b>

**CITY OF ANN ARBOR  
DECLARATION OF COMPLIANCE**

Non-Discrimination Ordinance

The “non discrimination by city contractors” provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor’s Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.
- (b) To post the City of Ann Arbor’s Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Address, City, State, Zip

\_\_\_\_\_  
Phone/Email Address

**Questions about the Notice or the City Administrative Policy, Please contact:**  
Procurement Office of the City of Ann Arbor  
(734) 794-6500



## CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.  
You can review the entire ordinance at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights).

**Intent:** It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

**Discriminatory Employment Practices:** No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

**Discriminatory Effects:** No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

**Nondiscrimination by City Contractors:** All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

**Complaint Procedure:** If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights). Then submit it to the Human Rights Commission by e-mail ([hrc@a2gov.org](mailto:hrc@a2gov.org)), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at [hrc@a2gov.org](mailto:hrc@a2gov.org).

**Private Actions For Damages or Injunctive Relief:** To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND  
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

## MICHIGAN DEPARTMENT OF TRANSPORTATION CERTIFIED PAYROLL

**COMPLETION OF CERTIFIED PAYROLL FORM FULFILLS THE MINIMUM MDOT PREVAILING WAGE REQUIREMENTS**

(1) NAME OF CONTRACTOR / SUBCONTRACTOR (CIRCLE ONE) (2) ADDRESS

(3) PAYROLL NO. (4) FOR WEEK ENDING (5) PROJECT AND LOCATION (6) CONTRACT ID

(a)	(b)	(c)	(d) DAY AND DATE							(e)	(f)	(g)	(h)		(i)	(j) DEDUCTIONS					(k)			
			Hour Type											TOTAL HOURS ON PROJECT		PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS		FICA	FEDERAL	STATE
EMPLOYEE INFORMATION NAME:	WORK CLASSIFICATION									0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH/GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00

Date \_\_\_\_\_

I, \_\_\_\_\_ (Name of Signatory Party) \_\_\_\_\_ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the  
 \_\_\_\_\_ (Contractor or Subcontractor)  
 \_\_\_\_\_; that during the payroll period commencing on the  
 \_\_\_\_\_ (Building or Work)  
 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_,  
 all persons employed on said project have been paid the full weekly wages earned, that no rebates have  
 been or will be made either directly or indirectly to or on behalf of said

\_\_\_\_\_ from the full  
 \_\_\_\_\_ (Contractor or Subcontractor)  
 weekly wages earned by any person and that no deductions have been made either directly or indirectly  
 from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part  
 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,  
 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

(2) That any payrolls otherwise under this contract required to be submitted for the above period are  
 correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the  
 applicable wage rates contained in any wage determination incorporated into the contract; that the  
 classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide  
 apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of  
 Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a  
 State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- in addition to the basic hourly wage rates paid to each laborer or mechanic listed in  
 the above referenced payroll, payments of fringe benefits as listed in the contract  
 have been or will be made to appropriate programs for the benefit of such  
 employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid,  
 as indicated on the payroll, an amount not less than the sum of the applicable  
 basic hourly wage rate plus the amount of the required fringe benefits as listed  
 in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR  
 SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE  
 31 OF THE UNITED STATES CODE.