

CONSTRUCTION REQUEST FOR PROPOSAL

RFP# 22-70

High Level Trunkline Sanitary Sewer Rehabilitation Ph. 2

City of Ann Arbor

Public Services Area / Engineering



Due Date: October 20, 2022 by 2:00 p.m. (local time)

Issued By:

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

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SECTION I - GENERAL INFORMATION

A. OBJECTIVE

The purpose of this Request for Proposal (RFP) is to select a firm to provide construction services for the High Level Trunkline Sanitary Sewer Rehabilitation Ph.2 (File # 2022-024).

B. QUESTIONS AND CLARIFICATIONS / DESIGNATED CITY CONTACTS

All questions regarding this Request for Proposal (RFP) shall be submitted via e-mail. Questions will be accepted and answered in accordance with the terms and conditions of this RFP.

All questions shall be submitted on or before October 4, 2022 at 1:00 p.m. (local time), and should be addressed as follows:

Scope of Work/Proposal Content questions shall be e-mailed to Igor Kotlyar, Project Manager, ikotlyar@a2gov.org

RFP Process and Compliance questions shall be e-mailed to Colin Spencer, Buyer - CSpencer@a2gov.org

Should any prospective bidder be in doubt as to the true meaning of any portion of this RFP, or should the prospective bidder find any ambiguity, inconsistency, or omission therein, the prospective bidder shall make a written request for an official interpretation or correction by the due date for questions above.

All interpretations, corrections, or additions to this RFP will be made only as an official addendum that will be posted to a2gov.org and MITN.info and it shall be the prospective bidder's responsibility to ensure they have received all addenda before submitting a proposal. Any addendum issued by the City shall become part of the RFP, and must be incorporated in the proposal where applicable.

C. PRE-PROPOSAL MEETING

No pre-proposal meeting will be held for this RFP. Please contact staff indicated above with general questions regarding the RFP.

D. PROPOSAL FORMAT

To be considered, each firm must submit a response to this RFP using the format provided in Section III. No other distribution of proposals is to be made by the prospective bidder. An official authorized to bind the bidder to its provisions must sign the proposal. Each proposal must remain valid for at least one hundred and twenty (120) days from the due date of this RFP.

Proposals should be prepared simply and economically providing a straightforward, concise description of the bidder's ability to meet the requirements of the RFP. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed in ink by the person signing the proposal.

E. SELECTION CRITERIA

Responses to this RFP will be evaluated using a point system as shown in Section III. A selection committee comprised primarily of staff from the City will complete the evaluation.

If interviews are desired by the City, the selected firms will be given the opportunity to discuss their proposal, qualifications, past experience, and their fee proposal in more detail. The City further reserves the right to interview the key personnel assigned by the selected bidder to this project.

All proposals submitted may be subject to clarifications and further negotiation. All agreements resulting from negotiations that differ from what is represented within the RFP or in the proposal response shall be documented and included as part of the final contract.

F. SEALED PROPOSAL SUBMISSION

All proposals are due and must be delivered to the City on or before October 20, 2022 by 2:00 p.m. (local time). Proposals submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each respondent should submit in a sealed envelope

- **one (1) original proposal**
- **one (1) additional proposal copy**
- **one (1) digital copy of the proposal preferably on a USB/flash drive as one file in PDF format**

Proposals submitted should be clearly marked: **“RFP No. 22-70 – High Level Trunkline Sanitary Sewer Rehabilitation Ph. 2”** and list the bidder's name and address.

Proposals must be addressed and delivered to:
City of Ann Arbor
c/o Customer Service
301 East Huron Street
Ann Arbor, MI 48107

All proposals received on or before the due date will be publicly opened and recorded on the due date. No immediate decisions will be rendered.

Hand delivered proposals may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is accessible to the public Monday through Friday from 8am to 5pm (except holidays). The City will not be liable to any prospective bidder for any unforeseen circumstances, delivery, or postal delays. Postmarking on the due date will not substitute for receipt of the proposal.

Bidders are responsible for submission of their proposal. Additional time will not be granted to a single prospective bidder. However, additional time may be granted to all prospective bidders at the discretion of the City.

A proposal may be disqualified if the following required forms are not included with the proposal:

- **Attachment D - Prevailing Wage Declaration of Compliance**
- **Attachment E - Living Wage Declaration of Compliance**
- **Attachment G - Vendor Conflict of Interest Disclosure Form**
- **Attachment H - Non-Discrimination Declaration of Compliance**

Proposals that fail to provide these forms listed above upon proposal opening may be deemed non-responsive and may not be considered for award.

G. DISCLOSURES

Under the Freedom of Information Act (Public Act 442), the City is obligated to permit review of its files, if requested by others. All information in a proposal is subject to disclosure under this provision. This act also provides for a complete disclosure of contracts and attachments thereto.

H. TYPE OF CONTRACT

A sample of the Construction Agreement is included as Attachment A. Those who wish to submit a proposal to the City are required to review this sample agreement carefully. **The City will not entertain changes to its Construction Agreement.**

For all construction work, the respondent must further adhere to the City of Ann Arbor General Conditions. The General Conditions are included herein. Retainage will be

held as necessary based on individual tasks and not on the total contract value. The Contractor shall provide the required bonds included in the Contract Documents for the duration of the Contract.

The City reserves the right to award the total proposal, to reject any or all proposals in whole or in part, and to waive any informality or technical defects if, in the City's sole judgment, the best interests of the City will be so served.

This RFP and the selected bidder's response thereto, shall constitute the basis of the scope of services in the contract by reference.

I. NONDISCRIMINATION

All bidders 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 Attachment G 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.

J. WAGE REQUIREMENTS

The Attachments provided herein outline the requirements for payment of prevailing wages or of a "living wage" to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and provide documentary proof of compliance when requested.

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 Michigan Department of Transportation Prevailing Wage Forms (sample attached hereto) 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 proposals 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: www.wdol.gov.

For the purposes of this RFP the Construction Type of Highway (Building, Heavy, Highway or Residential) will apply.

K. CONFLICT OF INTEREST DISCLOSURE

The City of Ann Arbor Purchasing Policy requires that the consultant complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected bidder 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 be 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 Conflict of Interest Disclosure Form is attached.

L. COST LIABILITY

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the bidder prior to the execution of an Agreement. The liability of the City is limited to the terms and conditions outlined in the Agreement. By submitting a proposal, bidder agrees to bear all costs incurred or related to the preparation, submission, and selection process for the proposal.

M. DEBARMENT

Submission of a proposal in response to this RFP is certification that the Respondent 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.

N. PROPOSAL PROTEST

All proposal protests must be in writing and filed with the Purchasing Manager within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If any 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 Manager. The Purchasing Manager 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 the 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.

O. SCHEDULE

The following is the schedule for this RFP process.

Activity/Event	Anticipated Date
Written Question Deadline	October 4, 2022, 1:00 p.m. (Local Time)
Addenda Published (if needed)	Week of October 10, 2022
Proposal Due Date	October 20, 2022, 2:00 p.m. (Local Time)
Selection/Negotiations	October/November 2022
Expected City Council Authorizations	November/December 2022

The above schedule is for information purposes only and is subject to change at the City's discretion.

P. IRS FORM W-9

The selected bidder will be required to provide the City of Ann Arbor an IRS form W-9.

Q. RESERVATION OF RIGHTS

1. The City reserves the right in its sole and absolute discretion to accept or reject any or all proposals, or alternative proposals, in whole or in part, with or without cause.
2. The City reserves the right to waive, or not waive, informalities or irregularities in terms or conditions of any proposal if determined by the City to be in its best interest.
3. The City reserves the right to request additional information from any or all bidders.
4. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested within RFP.
5. The City reserves the right to determine whether the scope of the project will be entirely as described in the RFP, a portion of the scope, or a revised scope be implemented.
6. The City reserves the right to select one or more contractors or service providers to perform services.
7. The City reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the firm of the conditions contained in this RFP, unless clearly and specifically noted in the proposal submitted.
8. The City reserves the right to disqualify proposals that fail to respond to any requirements outlined in the RFP, or failure to enclose copies of the required documents outlined within the RFP.

R. IDLEFREE ORDINANCE

The City of Ann Arbor adopted an idling reduction Ordinance that went into effect July 1, 2017. The full text of the ordinance (including exemptions) can be found at: 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.

S. 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.

T. 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.

U. MAJOR SUBCONTRACTORS

The Bidder shall identify 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.

V. 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.

SECTION II - SCOPE OF WORK

Please see the plan set and detailed specifications for more details.

SECTION III - MINIMUM INFORMATION REQUIRED

PROPOSAL FORMAT

The following describes the elements that should be included in each of the proposal sections and the weighted point system that will be used for evaluation of the proposals.

Bidders should organize Proposals into the following Sections:

- A. Qualifications, Experience and Accountability
- B. Workplace Safety
- C. Workforce Development
- D. Social Equity and Sustainability
- E. Schedule of Pricing/Cost
- F. Authorized Negotiator
- G. Attachments

Bidders are strongly encouraged to provide details for all of the information requested below within initial proposals. 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 proposal being considered non-responsive and will not be considered for award.

Pursuant to Sec 1:314(9) of the City Code which sets forth requirements for evaluating construction bids, Bidders should submit the following:

A. Qualifications, Experience and Accountability - 20 Points

1. Qualifications and experience of the bidder and of key persons, management, and supervisory personnel to be assigned by the bidder.
2. References from individuals or entities the bidder has worked for within the last five (5) years including information regarding records of performance and job site cooperation.
3. Evidence of any quality assurance program used by the bidder and the results of any such program on the bidder's previous projects.
4. A statement from the bidder as to any major subcontractors it expects to engage including the name, work, and amount.

B. Workplace Safety – 20 Points

1. Documentation of an on-going, Michigan OSHA-approved safety-training program for employees to be used on the proposed job site.
2. Evidence of the bidder's worker's compensation Experience Modification Rating ("EMR"). Preference within this criterion will be given to an EMR of 1.0 or less based on a three-year average.
3. Evidence that all craft labor that will be employed by the bidder for the project has, or will have prior to project commencement, completed at least the OSHA 10-hour training course for safety established by the U.S. Department of Labor, Occupational Safety & Health Administration.
4. The safety record of bidder and major subcontractors, including OSHA, MIOSHA, or other safety violations.

C. Workforce Development – 20 Points

1. The ratio of masters or journeypersons to apprentices proposed to be used on the construction project job site, if apprentices are to be used on the project.
2. Documentation as to bidder's pay rates, health insurance, pension or other retirement benefits, paid leave, or other fringe benefits to its employees.
3. Documentation that the bidder participates in a Registered Apprenticeship Program that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the USDOL Office of Apprenticeship.

D. Social Equity and Sustainability – 20 Points

1. A statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan. The City will consider in evaluating which bids best serve its interests, the extent to which responsible and qualified bidders are able to achieve this goal.
2. Evidence of Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses.

3. Evidence that the bidder is an equal opportunity employer and does not discriminate on the basis of race, sex, pregnancy, age, religion, national origin, marital status, sexual orientation, gender identity or expression, height, weight, or disability.
4. The bidder's proposed use of sustainable products, technologies, or practices for the project, which reduce the impact on human health and the environment, including raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and waste management.
5. The bidder's environmental record, including findings of violations and penalties imposed by government agencies.

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Unit Price Bid

BID FORM
Schedule of Prices
Project: RFP # 22-70 - High Level Trunkline Sanitary Sewer Lining Ph. 2

LINE No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT (\$)
130	Protective Fencing	LF	200	\$ _____	\$ _____ -
200	General Conditions, Modified, Maximum \$100,000	LS	1	\$ _____	\$ _____ -
201	Project Supervision, Modified, Maximum \$50,000	LS	1	\$ _____	\$ _____ -
202	Audiovisual Tape Coverage, Modified	LS	1	\$ _____	\$ _____ -
203	Minor Traffic Control, Modified, Maximum \$100,000	LS	1	\$ _____	\$ _____ -
204	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	EA	20	\$ _____	\$ _____ -
205	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	EA	20	\$ _____	\$ _____ -
206	Channelizing Device, 42 inch, Furn	EA	200	\$ _____	\$ _____ -
207	Channelizing Device, 42 inch, Oper	EA	200	\$ _____	\$ _____ -
208	Lighted Arrow, Type C, Furn	EA	4	\$ _____	\$ _____ -
209	Lighted Arrow, Type C, Oper	EA	4	\$ _____	\$ _____ -
210	Plastic Drum, High Intensity, Lighted, Furn	EA	200	\$ _____	\$ _____ -
211	Plastic Drum, High Intensity, Lighted, Oper	EA	200	\$ _____	\$ _____ -
212	Sign, Type B, Temp, Prismatic, Furn	SF	1,000	\$ _____	\$ _____ -
213	Sign, Type B, Temp, Prismatic, Oper	SF	1,000	\$ _____	\$ _____ -
214	"No Parking" Sign	EA	30	\$ _____	\$ _____ -
215	Sewer Flow Control	LS	1	\$ _____	\$ _____ -
216	Clean 15-inch Dia. Sanitary Sewer	LF	1,980	\$ _____	\$ _____ -
217	Clean 30-inch Dia. Sanitary Sewer	LF	4,294	\$ _____	\$ _____ -
220	Level 2 MACP Inspect Manhole	EA	25	\$ _____	\$ _____ -
221	Removal and Disposal of Sludge and Debris Material	Ton	100	\$ _____	\$ _____ -
222	CIPP Line 15 inch Dia. Sanitary Sewer	LF	1980	\$ _____	\$ _____ -
223	CIPP Line 30 inch Dia. Sanitary Sewer	LF	4294	\$ _____	\$ _____ -
226	Preline 15 inch Dia. Sanitary Sewer	LF	500	\$ _____	\$ _____ -
227	Preline 30 inch Dia. Sanitary Sewer	LF	500	\$ _____	\$ _____ -
228	Rem. Concrete Curb or Curb and Gutter, Any Type, Modified	LF	200	\$ _____	\$ _____ -
229	Rem. Concrete Sidewalk, Ramp and Drive, Any Thickness, Modified	SFT	200	\$ _____	\$ _____ -
230	Aggregate Base	TON	200	\$ _____	\$ _____ -
231	Hand Patching	TON	200	\$ _____	\$ _____ -
232	Concrete Curb or Curb & Gutter – Any Type	LF	200	\$ _____	\$ _____ -
233	4" Concrete Sidewalk, Modified	SFT	100	\$ _____	\$ _____ -
234	6" Concrete Sidewalk, Ramp, Drive Approach, Modified	SFT	100	\$ _____	\$ _____ -
235	6" Concrete Sidewalk, Ramp, Drive Approach, High Early	SFT	100	\$ _____	\$ _____ -
236	Concrete Type M Drive Opening, High Early	LF	100	\$ _____	\$ _____ -
237	Inlet Filter, Special	Each	30	\$ _____	\$ _____ -
238	Internal Chimney Seal	Each	15	\$ _____	\$ _____ -
239	Reconstruct Flow Channel	Each	15	\$ _____	\$ _____ -
240	Manhole Cementitious Liner	Vf	200	\$ _____	\$ _____ -
241	Clean-Up & Restoration, Special	LS	1	\$ _____	\$ _____ -
290	Certified Payroll Compliance and Reporting	LS	1	\$ _____	\$ _____ -

Total Base Bid \$ _____

F. AUTHORIZED NEGOTIATOR / NEGOTIATIBLE ELEMENTS (ALTERNATES)

Include the name, phone number, and e-mail address of persons(s) in your organization authorized to negotiate the agreement with the City.

The 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 bidder 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 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 its proposed time for performance of the work.

Consideration for any proposed alternative items or time may be negotiated at the discretion of the City.

G. ATTACHMENTS

General Declaration, Legal Status of Bidder, Conflict of Interest Form, Living Wage Compliance Form, Prevailing Wage Compliance Form and the Non-Discrimination Form should be completed and returned with the proposal. These elements should be included as attachments to the proposal submission.

PROPOSAL EVALUATION

1. The selection committee will evaluate each proposal by the above-described criteria and point system. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested for evaluation. A proposal with all the requested information does not guarantee the proposing firm to be a candidate for an interview if interviews are selected to be held by the City. The committee may contact references to verify material submitted by the bidder.
2. The committee then will schedule interviews with the selected firms if necessary. The selected firms will be given the opportunity to discuss in more detail their qualifications, past experience, proposed work plan (if applicable) and pricing.
3. The interview should include the project team members expected to work on the project, but no more than six members total. The interview shall consist of a presentation of up to thirty minutes (or the length provided by the committee) by the

bidder, including the person who will be the project manager on this contract, followed by approximately thirty minutes of questions and answers. Audiovisual aids may be used during the oral interviews. The committee may record the oral interviews.

4. The firms interviewed will then be re-evaluated by the above criteria and adjustments to scoring will be made as appropriate. After evaluation of the proposals, further negotiation with the selected firm may be pursued leading to the award of a contract by City Council, if suitable proposals are received.

The City reserves the right to waive the interview process and evaluate the bidder based on their proposal and pricing schedules alone.

The City will determine whether the final scope of the project to be negotiated will be entirely as described in this RFP, a portion of the scope, or a revised scope.

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.

Any proposal that does not conform fully to these instructions may be rejected.

PREPARATION OF PROPOSALS

Proposals should have no plastic bindings but will not be rejected as non-responsive for being bound. Staples or binder clips are acceptable. Proposals should be printed double sided on recycled paper.

Each person signing the proposal certifies that they are a person in the bidder's firm/organization responsible for the decisions regarding the fees being offered in the Proposal and has not and will not participate in any action contrary to the terms of this provision.

ADDENDA

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

Each bidder should acknowledge in its proposal all addenda it has received on the General Declarations form provided in the Attachments section herein. 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 official written addenda.

SECTION IV - ATTACHMENTS

Attachment A – Sample Standard Contract

Attachment B – General Declarations

Attachment C - Legal Status of Bidder

Attachment D – Prevailing Wage Declaration of Compliance Form

Attachment E – Living Wage Declaration of Compliance Form

Attachment F – Living Wage Ordinance Poster

Attachment G – Vendor Conflict of Interest Disclosure Form

Attachment H – Non-Discrimination Ordinance Declaration of Compliance Form

Attachment I – Non-Discrimination Ordinance Poster

Sample Certified Payroll Report Template

**ATTACHMENT A
SAMPLE STANDARD CONTRACT**

If a contract is awarded, the selected contractor will be required to adhere to a set of general contract provisions which will become a part of any formal agreement. These provisions are general principles which apply to all contractors of service to the City of Ann Arbor such as the following:

Administrative Use Only
Contract Date: _____

CONTRACT

THIS CONTRACT is between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and _____

("Contractor")

(An individual/partnership/corporation, include state of incorporation) (Address)

Based upon the mutual promises below, the Contractor and the City agree as follows:

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **RFP No. 22-70 – High Level Trunkline Sanitary Sewer Rehabilitation Ph. 2** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

- | | |
|--|-------------------------|
| Non-discrimination and Living Wage Declaration of Compliance Forms (if applicable) | General Conditions |
| Vendor Conflict of Interest Form | Standard Specifications |
| Prevailing Wage Declaration of Compliance Form (if applicable) | Detailed Specifications |
| Bid Forms | Plans |
| Contract and Exhibits | Addenda |
| Bonds | |

ARTICLE II - Definitions

Administering Service Area/Unit means **Public Services Area/Engineering Unit**

Project means **RFP No. 22-70 – High Level Trunkline Sanitary Sewer Rehabilitation Ph. 2**

Supervising Professional means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: **Igor V. Kotlyar, P.E.** whose job title is **Project Manager**. If there is any question

concerning who the Supervising Professional is, Contractor shall confirm with the manager of the Administering Service Area/Unit.

Contractor's Representative means _____ [Insert name] whose job title is [Insert job title].

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 within _____ () consecutive calendar days.
- (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 equal to \$_____ 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

Choose one only.

- (A) The City shall pay to the Contractor for the performance of the Contract, the 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 _____
Milton Dohoney, Jr., City Administrator

By _____
Brian Steglitz, Interim
Services Area Administrator

Approved as to form and content

Atleen Kaur, City Attorney

PERFORMANCE 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 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 _____, for RFP No. _____ 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 _____, 202_.

(Name of Surety Company)

By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Atleen Kaur, 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 _____

_____, for RFP No. _____; 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 _____, 202__

(Name of Surety Company)
By _____
(Signature)
Its _____
(Title of Office)

Approved as to form:

Atleen Kaur, 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, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

- (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. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents.

Standard Specifications are available online:

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

DETAILED SPECIFICATIONS

**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

1 of 8

a. General.- As detailed elsewhere in the Contract Documents and Drawings the work of this project is to be performed in a sensitive, valuable, natural area within the City of Ann Arbor (City). This Detailed Specification sets forth criteria that will be used by the City in determining if the Contractor has the necessary personnel, equipment, and experience to perform the work of this project.

b. Documentation to be provided.- The Contractor Qualifications detailed in this specification apply to the following items:

- Sewer Televising and Cleaning
- Cured-In-Place Pipe (CIPP) Lining
- Onsite Superintendent/Foreman

Contractor to complete the attached Reference Form and submit it as part of the bid submittal. **Not filling out the form or providing past experience may result in disqualification of the bid.** If subcontractors are to be used for any of the above items, they are to fill out a separate form.

The projects and total footage claimed to have been performed by the Contractor shall be supported by owner references. The Contractor shall submit information to document their experience.

1. **Sewer Televising and Cleaning.-** The Contractor performing the sewer televising and cleaning shall be fully qualified, experienced, and equipped to complete this work as shown on the Drawings and as indicated in the specifications. The Contractor shall have cleaned and televised a minimum of 100,000 lineal feet of sanitary sewers equal to or greater than 36 inches in diameter with lengths of the individual segments over 1,000 feet each in the past 7 years. The Contractor shall also have cleaned and televised at least 3 sanitary siphon sewers equal to or greater than 24 inches in diameter in the past 7 years. The Contractor shall have also worked a minimum of three projects in similar environmentally sensitive areas in the past 7 years. The Contractor shall provide detailed description of these environmentally sensitive projects and methods used to mitigate the work upon request of the Engineer.

2. **Sewer CIPP Lining.-** The Contractor performing the CIPP lining work shall be fully qualified, experienced, and equipped to complete this work expeditiously and in a satisfactory manner and shall be certified and/or licensed as an installer by the CIPP manufacturer. The Contractor shall have installed a minimum of 10,000 lineal feet of CIPP in sanitary sewers equal to or greater than 36 inches in diameter in the past 7 years and over 1,000,000 feet of lining in general over the past 7 years. Installations must have been in northern states and/or Canada. Contractor must also provide safety record for the past 7 years.

3. **Onsite Superintendent/Foreman.-** The full-time, onsite superintendent/ foreman shall be responsible for supervising all the work onsite, including but not limited to, the diversion of sanitary flow, bypass pumping, sewer televising and cleaning, and sewer CIPP lining, shall have supervised a minimum of 3 projects of this complexity in the past 7 years and shall have installed a minimum of 10,000 lineal feet of CIPP in sanitary sewers greater than 24 inches in diameter in the past 7 years.

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**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

2 of 8

1. Sewer Televising and Cleaning References
(Must be completed and submitted with Bid for consideration)

List sewer cleaning and televising projects of sewers equal to or greater than 36 inches in size that total (together) over 100,000 lineal feet with the lengths of the individual segments over 1,000 feet in the past 7 years and provide references. Also, list a minimum of 3 projects that include the cleaning and televising of the sanitary siphon sewers equal to or greater than 24 inches in size in the past 7 years and provide references. The Contractor shall have also worked a minimum of three projects in similar environmentally sensitive areas in the past 7 years.

Firm's Name: _____

Role on Project: _____

1.1. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.2. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.3. Client's Name: _____

**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

3 of 8

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.4. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.5. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.6. Client's Name: _____

DS- 3

Address: _____

**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

4 of 8

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

1.7. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

5 of 8

2. Sewer CIPP Lining References

(Must be completed and submitted with Bid for consideration)

List sewer CIPP lining projects of sewers equal to or greater than 36 inches in diameter that total (together) over 10,000 lineal feet in northern states and/or Canada in the past 7 years and over 1,000,000 feet of lining in general over the past 7 years, and provide references. Also, provide safety record for the past 7 years as an attachment.

Firm's Name: _____

Role on Project: _____

2.1. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

2.2. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

2.3. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

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**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

6 of 8

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

2.4. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

7 of 8

3. Onsite Superintendent/Foreman

(Must be completed and submitted with Bid for consideration)

List name of onsite superintendent/foreman and list a minimum of 3 projects of similar complexity totaling 10,000 lineal feet of CIPP lining in sanitary sewers greater than 24 inches in diameter that they have supervised in the past 7 years and provide references.

Superintendent/Foreman Name: _____

3.1. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

3.2. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

3.3. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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**DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

8 of 8

Year Work Performed: _____ Work Amount (\$): _____

3.4. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

Year Work Performed: _____ Work Amount (\$): _____

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE**

1 of 2

DESCRIPTION

Examination of Plans, Specifications, and Work Site: Bidders shall carefully examine the Bid Form, plans, specifications and the work site until the Bidder is satisfied as to all local conditions affecting the contract and the detailed requirements of construction. The submission of the bid shall be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and all requirements of the contract.

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

1. The Contractor shall begin the work of this project on or before **January 2, 2023**, and only upon receipt of the fully executed Contract and Notice to Proceed. Appropriate time extensions shall be granted if the Notice to Proceed is delayed beyond this date.
2. The entirety of work under this Contract, including but not limited to sanitary sewer inspection, cleaning, televising, and rehabilitation (cured-in-place pipe [CIPP] lining); manhole rehabilitation; the removal of any and all traffic control devices; and the installation/maintenance of the needed temporary soil erosion and sedimentation control devices, shall be completed by the Final Completion date of **April 30, 2023**.

The Contractor is expected to be furnished with two (2) copies of the Contract, for his/her execution, on or before **November 15, 2022**. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificate, to the City within ten (10) days. The Contractor shall not begin the work before the applicable date(s) as describes herein without approval from the Project Engineer, and in no case before the receipt of the fully executed Contract. City Council approval is expected on **December 19, 2022**.

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 throughout all authorized hours to complete the project within the specified time/date of this Contract. Should the Contractor demonstrate that work must occur on Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. The Contractor will submit authorization requests for any Sunday work a minimum of three working days in advance of the day of the proposed work. There will be no additional compensation due to the Contractor for work performed on Sundays.

Prior to the start of any construction, the Contractor shall submit a detailed progress schedule of work for the Engineer's review and approval. Work shall not start until a schedule is approved in writing by the Engineer. The Contractor shall update the approved work schedule upon request by the Engineer and present it to the Engineer within seven days of said request.

The City's decision to delete locations, add locations, change the limits of construction limits at any locations, or, the City's contribution to a delay of the construction at any one location shall not entitle the Contractor to receive additional compensation for work on any other location(s), nor shall it relieve the Contractor of any responsibilities for completion of work on any other location(s).

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE**

2 of 2

The Engineer may delay or stop the work due to threatening weather conditions. The Contractor shall not be compensated for unused materials or downtime due to rain, or the threat of rain. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the rain.

The Contractor shall not work in the dark except as approved by the Engineer and only when lighting for night work is provided as detailed elsewhere in this contract. The Engineer may stop the work, or may require the Contractor to defer certain work to another day, if, in the Engineer's opinion, the work cannot be completed within the remaining daylight hours, or if inadequate daylight is present to either properly perform or inspect the work. The Contractor will not be compensated for unused materials or downtime, when delays or work stoppages are directed by the Engineer for darkness and/or inadequate remaining daylight reasons. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the dark.

No work shall be performed or lane closures permitted during the holiday periods, as defined by the Engineer.

Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **\$1,000.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond any "Complete Work" date for each location, and beyond the overall project completion date as required by this Detailed Specification.

Liquidated Damages will be assessed until the required work is completed in the current construction season. If, with the Engineer's approval, work is extended beyond seasonal limitations, the assessment of Liquidated Damages will be discontinued until the work is resumed in the following construction season.

If the work required by this construction contract is not completed by the specified date(s) including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor, this Contract may be terminated with no additional compensation due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the Engineer elects to terminate the Contract, contract items paid for on a Lump Sum basis shall be paid up to a maximum percentage equal to the percentage of the contract work that has been completed.

High Level Trunkline Sanitary Sewer Lining Ph. 2

File # 2022-024 RFP # 22-70

FACILITYID	CIPP Segment (--- to ---)	LOCATION	Length	MATERIAL	DIAMETER	AVERAGE DEPTHS
74-69501	71-70703 to 71-70705	Crosslot from S. Ashley St. to S. First St.	28	RC	30	12
74-69503	71-70705 to 71-70481		391	RC	30	13
74-71023	71-70481 to 71-70837		156	RC	30	15
74-72966	71-70837 to 71-70480		166	RC	30	15
74-70717	71-70480 to 71-70647		44	RC		
74-70880	71-70647 to 71-70478	S. First St	289	RC	30	15
74-70715	71-70478 to 71-70464	S. First and W. Liberty	125	RC	30	15
74-70701	71-70464 to 71-70465		108	RC	30	16
74-70702	71-70465 to 71-70466	S. First St. between W. Liberty St. & W. Washington St.	364	RC	30	10
74-70703	71-70466 to 71-70467		41	RC	30	
74-70704	71-70467 to 71-70468	S. First St. between W. Huron St. & W. Washington St.	317	RC	30	
74-70705	71-70468 to 71-70470	S. First St. between W. Huron St. & W. Ann St.	380	RC	30	16
74-70707	71-70470 to 71-70536	S. First St. between Miller Ave. & W. Ann St.	291	RC	30	17
74-61349	71-70536 to 71-70541		21	RC	30	16
74-71619	71-71422 to 71-71423	E. Hoover Ave.	372	RC	30	13
74-71620	71-71423 to 71-71424		370	RC	30	13
74-71621	71-71424 to 71-71425		249	RC	30	14
74-71756	71-71425 to 71-71554	S. State St. and Arch St.	129	RC	30	15
74-71615	71-71554 to 71-71419		121	RC	30	14
74-71686	71-71419 to 71-71491		332	RC	30	16
74-70719	71-70482 to 71-70512	Xlot between W. Liberty St. and S. First St	266	VT	15	15
74-61459	71-70482 to 71-70510 (69-54293 Bulk)	S. Forst St. between W. Liberty St. and W. William St.	238	VT	15	14
74-72968	71-70510 to 71-72349	Xlot between W. William St. and W. Jefferson St.	609	VT	15	12
74-71601	71-70704 to 71-71405	Xlot between W. Jefferson St. and S. Ashley St.	539	VT	15	8
74-71602	71-71405 to 71-71406	S. Main St. and E. Madison St.	328	VT	15	10

**DETAILED SPECIFICATION
FOR
COORDINATION AND COOPERATION WITH OTHERS
AND
WORK BY OTHERS**

1 of 1

The Contractor is reminded as to the requirements of article 104.07 of the 2020 edition of the MDOT Standard Specifications, "Cooperation by the Contractor."

The Contractor shall directly coordinate his/her work with individual City Departments/Divisions/Units.

No additional compensation will be paid to the Contractor, and no adjustments to contract unit prices will be made, due to delays and/or the failure of others in the performance of their work, nor for delays due to the encountering of existing utilities that are, or are not, shown on the Plans.

The following Utility Owners, and others not listed specifically, may have overhead and/or underground facilities located within the Right-of-Way/Public Easements:

The City of Ann Arbor
University of Michigan (UM)
Michigan Department of Transportation (MDOT)
AT&T
Comcast
DTE Energy - Detroit Edison Company (Edison)
DTE Energy - Michigan Consolidated Gas Company (Michcon)
Fiber Link Inc.
Light Core (Century Tel)
MCI Communications
Windstream Communications

On all projects:

"3 Working Days before you Dig - Call MISS DIG - Toll Free" Phone No. 1-800-482-7171.

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.

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; construction of adjacent projects, underground utility work, permanent signing and traffic signals work, traffic control improvements, street maintenance and snow removal, etc. The Contractor shall cooperate and coordinate construction activities with these agencies in accordance with Article 104.08 of the 2020 edition of the MDOT Standard Specifications for Construction.

Stoppages created solely by the operations of the utility companies which delay utility revisions on any portion of this project may be considered as a basis of claim for an extension of time for project completion.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions."

**DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC**

1 of 2

DESCRIPTION

Traffic shall be maintained in accordance with the City of Ann Arbor Public Services Department Standard Specifications and as specified in Sections 104.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD), and as described herein.

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

MATERIALS

The materials and equipment shall meet the requirements specified in the corresponding sections of the MDOT 2020 Standard Specifications for Construction and the 2011 MMUTCD.

Maintenance of Local Traffic

Unless otherwise indicated on the plans, all side roads shall not be closed to through traffic except during construction operations of short duration and only upon written approval of the Engineer.

Local access shall be maintained at all times for emergency vehicles, refuse pick-up, mail delivery, school buses, and ingress/egress to public and private properties.

Contractor must accommodate the safe access to the residential buildings and businesses located within construction area.

Driveways shall not be blocked for extended periods of time unless arrangements can be made with the affected property owner(s). When it becomes necessary to temporarily block driveways, the Contractor shall notify the affected property owners in advance to coordinate the work and allow sufficient time for vehicles to vacate from properties. It may be necessary to allow for vehicles to temporarily park in the roadway at locations that do not interfere with the Contractor's work. During these periods the owners of the respective vehicles must be available to, with proper notice, move their vehicles if it becomes necessary to accommodate the work.

At times, when it becomes necessary to temporarily obstruct local traffic during the performance of the work, the Contractor shall provide traffic regulator control in conformance with Chapter 6E of the MMUTCD, Sections 6E.01 thru 6E.08. A minimum of two traffic regulators are required. The cost of traffic regulator control shall be included in the contract pay item "Minor Traffic Control, Modified, Maximum \$100,000".

A lane-closure permit shall be obtained by the Contractor from the City of Ann Arbor Engineering Department at least 48 hours in advance of any proposed lane or street closing.

**DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC**

2 of 2

No lane closures shall be permitted during the holiday periods, as defined by the Engineer.

The hours of work on all Local streets are 7:00 a.m. to 8:00 p.m., Monday through Saturday, or as specified on the lane-closure permit. No equipment will be allowed in the street before or after these hours. Local streets may only be closed to through traffic (local access only) with written authorization of the Engineer. Work must be completed each day such that all streets are re-opened to through traffic by 8:00 p.m. unless otherwise specified, directed, or authorized in writing by the Engineer. All major changes in traffic control shall be made either between 9:30 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush-hour traffic. All traffic controls must be in-place and ready for traffic each day by 6:30 a.m. and 3:30 p.m.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer.

The Contractor shall use quantities of dust palliative, maintenance aggregate, and cold patching/HMA mixtures for use as temporary base, surfacing, and dust control at utility crossings, side roads and driveways (wherever required to maintain traffic), and where directed by the Engineer to maintain local access. The cost for the use of dust palliative, maintenance aggregate, cold patch and/or hot mix asphalt 36A mixture, as required and directed by the Engineer for maintenance of traffic and local access, shall be included in contract pay item "General Conditions," and it will not be paid for separately.

The work of maintaining and relocating existing warning, regulatory and/or guide signs; and of removing, salvaging and reinstalling existing signs and supports is included in the bid price for the contract pay item "Minor Traffic Control, Modified, Maximum \$ 100,000".

Mailboxes and newspaper boxes that are in the way of the construction shall be removed and reset immediately in a temporary location approved by the Engineer. Mail and paper delivery shall not be interrupted during the construction. Upon completion of the construction, all mailboxes and newspaper boxes, including their supports, shall be repositioned in their permanent locations as approved by the Engineer. This work shall be included the contract unit price for the contract pay item "General Conditions," and it will not be paid for separately.

The Contractor shall perform the work of this Contract while maintaining traffic in accordance with the Contract Documents as specified herein. No traffic shall be allowed on newly placed asphalt surfaces until rolling has been satisfactorily completed and the surface has cooled sufficiently to prevent damage from traffic. This is to be accomplished by flag persons and by relocating traffic control devices to prevent traffic from entering the work area until such time that it can be safely maintained without damaging the new construction. The Contractor shall provide traffic regulators in sufficient number to maintain traffic as described herein, and to keep traffic off sections being surfaced, and provide for safe travel at all times as directed by the Engineer.

The Contractor shall furnish, erect, maintain, and upon completion of the work, remove any and all traffic control devices utilized on the project.

Each pressure distributor, paver and roller shall be equipped with at least one approved flasher light which shall be mounted on the equipment so as to give a warning signal ahead and behind.

**DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING**

1 of 1

The Contractor must submit a detailed progress schedule at the Pre-construction meeting which is to be approved by the Engineer. Unless an alternative sequence is requested by the Contractor and approved in writing by the Engineer, the work shall be performed in the order as shown on the schedule. This outline does not detail the full range of materials and processes needed to complete the work under this Contract. At each location the Contractor shall:

1. Install the required temporary traffic control devices in accordance with the construction plans, as detailed in the specifications, and as directed by the Engineer.
2. Install the soil erosion control measures in accordance with the plans and as directed by the Engineer.
3. Obtain approval for, set up, and activate by-pass pumping.
4. Clean & videotape sewer to be lined.
5. Construct the proposed sewer lining. The new sewer shall be tested in accordance with the plans and specifications.
6. After all the new sewer has passed the required testing, the contractor shall open all service leads. Service leads shall not be out of service for more than 12 hours.
7. Deactivate and breakdown by-pass pumping equipment.
8. Perform final cleanup and restoration in accordance with the Contract documents.
9. Remove temporary soil erosion and sedimentation control measures.
10. Remove all temporary traffic control devices.

Reference the plans for additional construction sequencing requirements.

**DETAILED SPECIFICATION
FOR
HOURS OF WORK**

a. General Restrictions.- Hours of work shall be as stated in the Ann Arbor City Code Title IX, Chapter 119, Page 9.363, Monday through Saturday, between the hours of 7:00 a.m. and 8:00 p.m.

b. Exceptions.- During installation of the cured-in-place pipe (CIPP) lining, the Contractor may choose, in some cases, to perform nighttime work to facilitate construction during the inversion and curing processes. Additional requirements regarding this work are contained in Detailed Specification “CIPP Sewer Lining” and elsewhere in the Contract Documents. The Contractor shall include this work in their progress schedule, notify, and submit a request to the Engineer for permission to perform the nighttime CIPP work a minimum of 5 working days prior to beginning the work.

Maintenance of the sewer flow control may also require working outside the allowable hours of work (“off-hour” work). The Contractor shall provide anticipated off-hour work as part of their Sewer Flow Control Plan submittal(s) as contained in the Detailed Specification for “Sewer Flow Control.”

Additional work restrictions are contained in the Detailed Specifications for “Project Schedule,” “Maintenance of Traffic,” “Working Space,” “Construction Sequencing,” and elsewhere in the Contract Documents. These work restrictions shall take precedence over the General Restrictions and Exceptions listed above.

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 included in the Contractor’s progress schedule and submitted to the Engineer for approval a minimum of 5 working days prior to beginning the work.

c. Noise Control. - All noise generated by construction activities shall not exceed 71 decibels (dBA) beyond the property line of the property on which the work is being conducted between 7:00 a.m. and 8:00 p.m., Monday through Saturday. The Contractor shall provide screening, noise absorption, and level II sound attenuation as required on equipment to meet the noise limitations set herein. Any “off-hour” work will require a temporary exemption from the City of Ann Arbor City Administrator. A temporary exemption may be granted in accordance with each respective entities’ code of ordinance.

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

**DETAILED SPECIFICATION
FOR
WORKING IN THE RAIN**

Portions of the work to be performed under this contract are weather sensitive. Contractor shall be responsible for coordinating and scheduling their work in anticipation of the weather.

Sewer flow control must cease during wet weather conditions. Wet weather conditions are as defined in Detailed Specification “Sewer Flow Control.”

In the event of a wet weather event, Contractor shall remove plugs installed for sanitary flow diversion. Plugs shall be reinstalled upon cessation of the wet weather event and as approved by the Engineer.

The Contractor shall not be compensated for the time and/or effort spent removing the temporary flow diversion plugs and the lateral bypass pumping system or for unused materials or downtime caused as a result of a wet weather event. The Contractor is solely responsible for repairing all damage to the work and to the site, including road infrastructure, road subgrades, underground utilities, any adjacent properties, and the like, which are damaged as a result of working in the rain or working in areas that are wet from recent precipitation.

The only exception to the above is as indicated in Detailed Specification “Extension of Time, Additional Compensation.”

The costs of complying with this requirement shall not be paid for separately but shall be considered included in the cost of the affected contract pay items.

**DETAILED SPECIFICATION
FOR
EXTENSION OF TIME, ADDITIONAL COMPENSATION**

The Contractor shall notify the Engineer of their intent to submit a claim for additional compensation or an extension of time in accordance with the requirements of Section 104.10 of the 2020 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction. Failure to do so may be a basis for not approving the request for additional compensation or extension of time. The notification will allow the Engineer an opportunity to influence, keep records, and monitor the work.

Extensions of time will not be authorized due to delays caused by, or stemming from, the weather for the period between November 14th and April 16th unless any of the following conditions are present:

1. Air temperature (as measured from a thermometer provided, maintained, and installed by the Contractor in a location on the worksite, as mutually agreed upon between the Contractor and the Engineer) is below 15°F for a period of time longer than 48 consecutive hours.
2. Accumulations of snow in excess of 12 inches occur in any 24 hour period.
3. Freezing rain in excess of 1/4-inch occur in any 24 hour period.
4. Wet weather event, as defined in Detailed Specification “Sewer Flow Control” requiring the temporary removal of flow diversion plugs and lateral bypass pumping system.

Should the above mentioned weather conditions occur, and the Contractor requests an extension of contract time, the time extension shall only be for the realized delay to the controlling work operation.

The above weather delays shall not be considered as a basis for additional compensation on this project. The only exception shall be that if the temporary removal of the flow diversion plugs and lateral bypass pumping system occurred after the sewers had been cleaned, televised, prepped for lining, and approved by the Engineer for lining before the sewers were lined. In such an event, the Contractor may request compensation for the re-cleaning and re-televising of the affected pipes only. The re-cleaning must first be approved by the Engineer prior to the work beginning. No compensation shall be provided for the removal and re-installation of the plugs.

In addition, if delays resulting from air temperature, snow accumulation, and/or freezing rain occur and the Contractor has their bypass pumping system in place and operational, the Contractor shall still be responsible to continuously protect and maintain in operation the complete sewer flow control system. Expenses related to maintaining the bypass pumping system shall not be considered to be additional costs or extra expenses during an authorized extension of time due to these weather-related time extensions.

The Contractor shall anticipate underground utility complications arising from the proposed utility work, unknown and/or fragile utilities, and utilities requiring investigation and or relocation. These utilities may be shown on the Drawings, correctly or incorrectly, or not at all, and may delay a controlling operation.

Additional compensation is defined as additional work, extra work, upward unit price adjustments, payments for down time, and the like.

**DETAILED SPECIFICATION
FOR
ITEM #200 – GENERAL CONDITIONS, MODIFIED, MAXIMUM \$100,000**

1 of 2

DESCRIPTION

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, testing, inspection, surveying, and staking
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities
- Protection and maintenance of Utilities
- Placing, maintaining, and removing all soil erosion and sedimentation controls, including stone inlets filers (as shown on project plants)
- Maintaining drainage
- Maintaining driveways drive openings, sidewalks, bike paths, mail deliveries, and solid waste/recycle pick-ups. This includes the placement and maintenance of gravel in driveway openings as directed by the Engineer
- Storing all materials and equipment off lawn areas
- Temporary relocation and final replacement/re-setting of mailboxes
- Site clean-up
- Coordination efforts to furnish various HMA mixtures as directed by the Engineer
- Coordination efforts to furnish and operate various-size vehicles/equipment as directed by the Engineer
- Furnishing and operating vacuum-type street cleaning equipment a minimum of once per week or more frequently as directed by the Engineer
- 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
- Mobilization(s) and demobilization(s)
- Furnishing submittals and certifications for materials and supplies
- Disposing of excavated materials and debris - The Contractor shall dispose of, at the Contractor’s expense, all excavated material. Costs for this work will not be paid for separately.
- All miscellaneous and incidental items such as overhead, insurance, and permits.
- Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

Data pertaining to existing soil borings and pavement sections which are included in Appendix B, of these Contract Documents are provided to help the Engineer and Contractor determine the soil conditions existing within the construction area. The City in no way guarantees existing conditions to be the same as shown in the data. The Contractor is solely responsible for any and all conclusions he/she may draw from the data.

Quantities as given are approximate and are estimated for bidding purposes. Quantities are not guaranteed and may vary by any amount. While it is the City's intent to complete the project substantially as drawn and specified herein, quantities may be changed or reduced to zero for cost savings or other reasons. **The**

City reserves the right to change the quantities, and no adjustment in unit price will be made for any change in any quantity.

**DETAILED SPECIFICATION
FOR
ITEM #200 – GENERAL CONDITIONS, MODIFIED, MAXIMUM \$100,000**

2 of 2

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 as described herein. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

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:

PAY ITEM

PAY UNIT

General Conditions, Modified, Maximum \$100,000

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 Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$50,000**

1 of 3

DESCRIPTION

The Contractor shall designate a full-time Project Supervisor to act as the Contractor's agent/representative, and to be responsible for scheduling and coordination of all subcontractors, suppliers, other governmental agencies, and all public and private utility companies.

The Project Supervisor shall not be an active crew member of the Contractor, shall not be an active member or employee of any subcontractor's work force, and shall not perform general or specialized labor tasks.

The Project Supervisor shall work exclusively on this project, and shall put forth his/her full effort into the organization and coordination of the work of this project.

Prior to the pre-construction meeting, the Contractor shall designate a proposed Project Supervisor by name, and shall furnish the City with a current, thorough, detailed summary of the proposed Project Supervisor's work history, outlining all previous supervisory experience on projects of a similar size and nature. The detailed work history shall include personal and professional references (names and phone numbers) of persons (previous owners or agents) who can attest to the qualifications and work history of the proposed Project Supervisor. Proposed candidates for Project Supervisor shall have a demonstrated ability to work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature. The Supervising Professional will have the authority to reject a proposed Project Supervisor whom he/she considers unqualified.

The Project Supervisor shall be available 24 hours-per-day to provide proper supervision, coordination and scheduling of the project for the duration of the Contract. The Contractor shall furnish the City with telephone numbers of the Project Supervisor in order to provide 24 hour-per-day access during business and non-business hours, including weekends and holidays.

The Project Supervisor shall be equipped by the Contractor with a mobile telephone to provide the City with 24 hour-per-day access to him/her during daily construction activities, during transit to and from the construction site, and during all non-business hours including weekends and holidays.

The Project Supervisor shall be equipped with assistants as necessary to provide project supervision as specified herein, and in accordance with the Contract.

DUTIES AND RESPONSIBILITIES

The Project Supervisor work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature.

The Project Supervisor shall have a thorough, detailed understanding and working knowledge of all construction practices and methods specified elsewhere herein, as well as the handling, placement, testing and inspection of aggregates, aggregate products, HMA concrete, and Portland cement concrete materials.

The Project Supervisor shall be responsible for all of the work of all of the Contractor's, subcontractors' and suppliers' work forces.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$50,000**

2 of 3

The Project Supervisor shall be responsible for proper and adequate maintenance (emissions, safety, and general operation) of all of the Contractor's, subcontractors' and suppliers' equipment and vehicles.

The Project Supervisor shall be responsible for the legal, proper and safe parking/storage of all of the Contractor's, subcontractors' and suppliers' equipment, work vehicles, and employee's vehicles.

The Project Supervisor shall schedule and coordinate the work of all parties involved in the project, including utility companies, testing agencies, governmental agencies, all City departments (such as Utilities and Transportation), and City inspectors.

The Project Supervisor shall coordinate and schedule the work of any independent survey crews that may be retained by the City to witness and reset existing and new geographic/benchmark monuments. Failure to have existing monuments witnessed and reset may result in delays to the Contractor's work. Costs for such delays will be the Contractor's sole responsibility.

The Project Supervisor shall coordinate and schedule both testing inspectors and City inspectors in a timely manner, to assure proper and timely testing and inspection of the work.

The Project Supervisor shall review the Inspector's Daily Reports (IDRs) for accuracy and shall sign all IDRs on a daily basis as the representative of the Contractor. Items to be reviewed include descriptions, locations and measurements of quantities of work performed, workforce, equipment, and weather. The Project Supervisor shall also be responsible for its subcontractors' review and initialing of IDRs containing work items performed by each respective subcontractors.

The Project Supervisor shall submit to the Engineer, an updated, detailed schedule of the proposed work on a weekly basis, and an update of all proposed changes on a daily basis, all in accordance with the Detailed Specification for Project Schedule contained elsewhere herein.

The Project Supervisor shall schedule and chair a weekly progress meeting with the Engineer and all subcontractors to discuss the work. Upon the completion of each meeting, the Project Supervisor shall prepare and distribute, to all present, a written summary of the meeting's minutes. Those in attendance shall review the minutes and, if necessary, comment on any deficiencies or errors prior to or at the next scheduled progress meeting.

ADDITIONAL PERFORMANCE REQUIREMENTS

If, in the sole opinion of the Supervising Professional, the Project Supervisor is not adequately performing the duties as outlined in this Detailed Specification, the following system of notices will be given to the contractor with the associated penalties:

First Notice – A warning will be issued in writing to the contractor detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a second notice.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$35,000**

3 of 3

Second Notice – A second warning will be issued in writing to the contractor further detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a third notice. A deduction of 10% will be made from the original Project Supervision contract amount. At this time, the City reserves the right to meet with personnel with the necessary authority within the Contractor’s organization to discuss the deficiencies in the Project Supervision.

Third Notice – An additional deduction of 25% will be made from the original Project Supervision contract amount, and the Project Supervisor shall be removed from the project, and replaced immediately with another individual to be approved by the Supervising Professional.

Should, in the sole opinion of the Supervising Professional, the Project Supervisor fail to perform his/her duties and responsibilities as described herein to such a degree that the successful completion of the project is put in jeopardy, the above system of notices may be foregone, and the Contractor shall immediately replace the Project Supervisor upon receipt of written notice. Failure to provide adequate project supervision, as determined by the Engineer, shall be considered basis for the Supervising Professional to suspend work without extension of contract time or additional compensation.

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 as described herein. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

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:

PAY ITEM

Project Supervision, Maximum \$50,000

PAY UNIT

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 Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

1 of 3

DESCRIPTION

This work shall include digital audiovisual record of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein. This work will be performed for the entire project limits prior to the start of construction.

The audio-visual filming shall be:

1. Of professional quality, providing a clear and accurate audio and visual record of existing conditions.
2. Prepared within the four (4) week period immediately prior to the start of construction
3. Furnished to the Engineer a minimum of one (1) week prior to bringing any materials or equipment within the areas described in this Detailed Specification.
4. Carried-out under the supervision of the Engineer.

The Contractor shall furnish one (1) copy of the completed audiovisual record to the Engineer. An index of the footage shall be included, which will enable any particular area of the project to be easily found. **This includes indexing the files according to street and Station number as applicable.** The Contractor shall retain a second copy of the audiovisual record for his/her own use.

Any portion of the film determined by the Engineer to be unacceptable for the documentation of existing conditions shall be filmed again at the Contractor's sole expense prior to mobilizing onto the site.

PRODUCTION

The audio-visual filming shall be completed in accordance with the following minimum requirements:

1. DVD Format, No Editing - The filming shall be done in color using equipment that allows audio and visual information to be recorded. Splicing or editing of the tape shall not be allowed and the speed and electronics of the videotaping equipment and DVD shall be equal to that which is standard to the videotaping industry.
2. Perspective / Speed / Pan / Zoom - To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 10 feet and the filming must proceed in the general direction of travel at a speed not to exceed 48 feet per minute. Pan and zoom rates shall be controlled sufficiently so that playback will ensure quality of the object viewed.
3. Display - The recording equipment shall have transparent time, date stamp and digital annotation capabilities. The final copies of the tape shall continuously and simultaneously display the time (hours:minutes:seconds) and the date (month/date/year) in the upper left-hand corner of the frame. Accurate project stationing, where applicable, shall be included in the lower half of the frame in standard format (i.e. 1+00). Below the stationing periodic information is to be shown, including project name, name of area shown, street address, direction of travel, viewing direction, etc. If in the event, the stationing has not been established on-site, refer to the plans and approximate the proposed stationing.

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

2 of 3

4. Audio Commentary / Visual Features. Locations relative to project limits and landmarks must be identified by both audio and video means at intervals no longer than 100 feet along the filming route. Additional audio commentary shall be provided as necessary during filming to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.
5. Visibility / Ground Cover - The filming shall be performed during a time of good visibility. Filming shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being filmed. The Contractor shall notify the Engineer in writing in the event that the weather or snow cover is anticipated to cause a delay in filming.

COVERAGE

The audio-visual film coverage shall include the following:

1. General Criteria - This general criteria shall apply to all filming and shall include all areas where construction activities will take place or where construction vehicles or equipment will be operated or parked and or where materials will be stored. The filming shall extend an additional 50 feet outside of all areas. The filming shall include all significant, existing man-made and natural features such as driveways, sidewalks, utility covers, utility markers, utility poles, other utility features, traffic signal structures and features, public signs, private signs, fences, landscaping, trees, shrubs, other vegetation, and other similar or significant features.
2. Other Areas - The Contractor shall film at his sole expense other areas where, in his/her opinion, the establishment of a record of existing conditions is warranted. The Contractor shall notify the Engineer in writing of such areas.

The Engineer may direct the filming of other minor areas not specified herein at the Contractor's sole expense.

AUDIOVISUAL FILMING SERVICES

The following companies are known to be capable of providing the filming services required by this Detailed Specification and shall be utilized, unless the Contractor receives prior written approval from the Engineer to utilize another company of comparable or superior qualifications.

- Construction Video Media
- Midwest Company
- Topo Video, Inc.
- Video Media Corp.
- Paradigm 2000, Inc.
- Finishing Touch Photo and Video

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

3 of 3

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:

PAY ITEM

PAY UNIT

Audiovisual Tape Coverage, Modified

Lump Sum

Audiovisual Tape Coverage shall include all labor, equipment, and materials required to perform the filming and to provide the finished videotape the Engineer. The unit price includes filming the entire project limits, for each and every street, as described above.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$100,000**

1 of 5

DESCRIPTION

The work shall include, but is not limited to the following:

- The furnishing and operating of miscellaneous signs, warning devices, traffic regulators, flags, paddles, and cones;
- The operation of additional signs furnished by the City;
- Furnishing and installing meter bags;
- Coordinating with the City to have meter heads removed and reinstalled;
- Maintaining pedestrian traffic;
- Temporarily covering traffic controls;
- Temporarily covering existing signs as directed;
- Any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

This work shall consist of protecting and maintaining vehicular and pedestrian traffic, in accordance with Sections 104.11 and 812 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction; Part 6 of the 2011 Edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the City of Ann Arbor Standard Specifications for Construction, except as modified herein.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

Materials and equipment shall meet the requirements specified in the above designated sections of the MDOT 2020 Standard Specifications for Construction.

The Contractor shall maintain two-way traffic on major streets, access for local traffic on local streets, and keep all intersections open to traffic at all times, unless specifically authorized in writing by the Engineer.

The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. Patch areas which extend more than halfway across the roadway shall be removed and replaced so as to provide a minimum of half the pavement width at all times for maintaining traffic.

The Contractor shall keep all driveways open at all times, unless specifically authorized in writing by the Engineer.

The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, Plastic Drum, High Intensity, Lighted shall be placed by the Contractor as directed by the Engineer. The Contractor, when directed by the Engineer, shall place "Sidewalk Closed" and/or "Cross Here" signs and the cost shall be included in this pay item and will not be paid for separately.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the Contract or City.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$100,000**

2 of 5

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. The City will repair any existing City owned signs, at the Contractor's expense, which are damaged by the Contractor during the work.

The Contractor shall obtain a Traffic Detour or Lane Closure Permit from the City's Project Management Services Unit, at least 48 hours in advance of any proposed lane or street closing.

Traffic on major streets should not be impacted between the hours of 7:00 a.m. to 9:00 a.m. and from 3:30 p.m. to 6:00 p.m. without written permission from the Engineer or as specified on the Lane Closure Permit. All major changes in traffic control shall be made either between 9:00 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush hour traffic. All traffic controls must be in place and ready for traffic each day by 6:30 a.m. and 3:30 p.m.

The hours of work on all local streets are 7:00 a.m. to 8:00 p.m., Monday through Saturday, or as specified on the Lane Closure Permit. No equipment will be allowed in the street before or after these hours. Local streets may only be closed to through traffic (local access only) with written authorization of the Engineer. Work must be completed each day such that all streets are re-opened to through traffic by 8:00 p.m. unless otherwise specified, directed, or authorized in writing by the Engineer.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer.

Parking violation citations issued to the Contractor, subcontractor, and material suppliers including each of their respective employees shall be enforced under appropriate City Code.

The Contractor shall replace missing or damaged traffic control devices as directed by the Engineer. When traffic control devices have been damaged by, or due to, the negligence of the Contractor, its subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

The work for Minor Traffic Control, Modified shall include: furnishing and operating of miscellaneous signs and warning devices; furnishing cones; operating additional signs furnished by the City throughout the life of the Contract; furnishing and operating pedestrian traffic control devices; maintaining a safe trench during all non-working hours; maintaining access to all drives; covering conflicting existing signs and removal of these covers; and any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

Where there is metered parking, the Contractor shall either rent and install meter bags, or, with the Engineer's authorization, coordinate with the City Field Services to have meter heads removed and reinstalled.

The Contractor shall maintain vehicular and pedestrian traffic during the work by the use of traffic regulators, channelizing devices and signs as necessary, as directed by the Engineer, and in accordance with 2011 Edition of the MMUTCD. Typical applications for maintaining pedestrian traffic in accordance with the 2011 Edition of the MMUTCD are included in this detailed specification.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$100,000**

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In order to maintain areas of on-street parking available for residents, the Engineer may direct the contractor to cover and uncover temporary “No Parking” signs within the project limits multiple times throughout the course of the project. Such repeated covering and uncovering of signs shall be included in this item of work and shall not be paid for separately.

MEASUREMENT AND PAYMENT

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

Costs for transporting barricades and other temporary traffic control devices shall be included in the bid prices for the individual items of work.

Minor Traffic Control, Modified, Maximum \$25,000 will be paid for on a pro rata basis with 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 as described herein. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

PAY ITEM

PAY UNIT

Minor Traffic Control, Modified, Maximum \$100,000

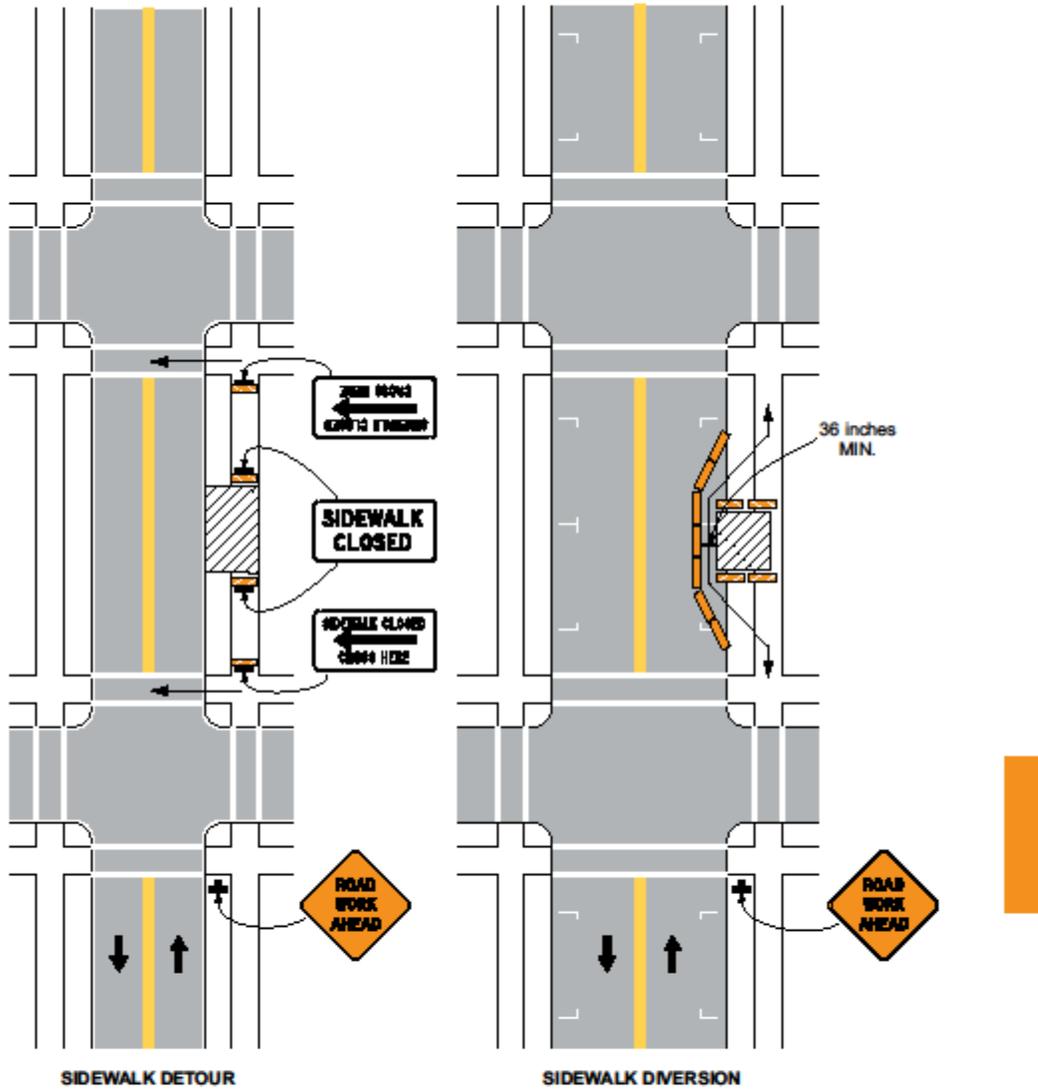
Lump Sum

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

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$100,000**



Figure 6H-28. Sidewalk Detour or Diversion (TA-28)

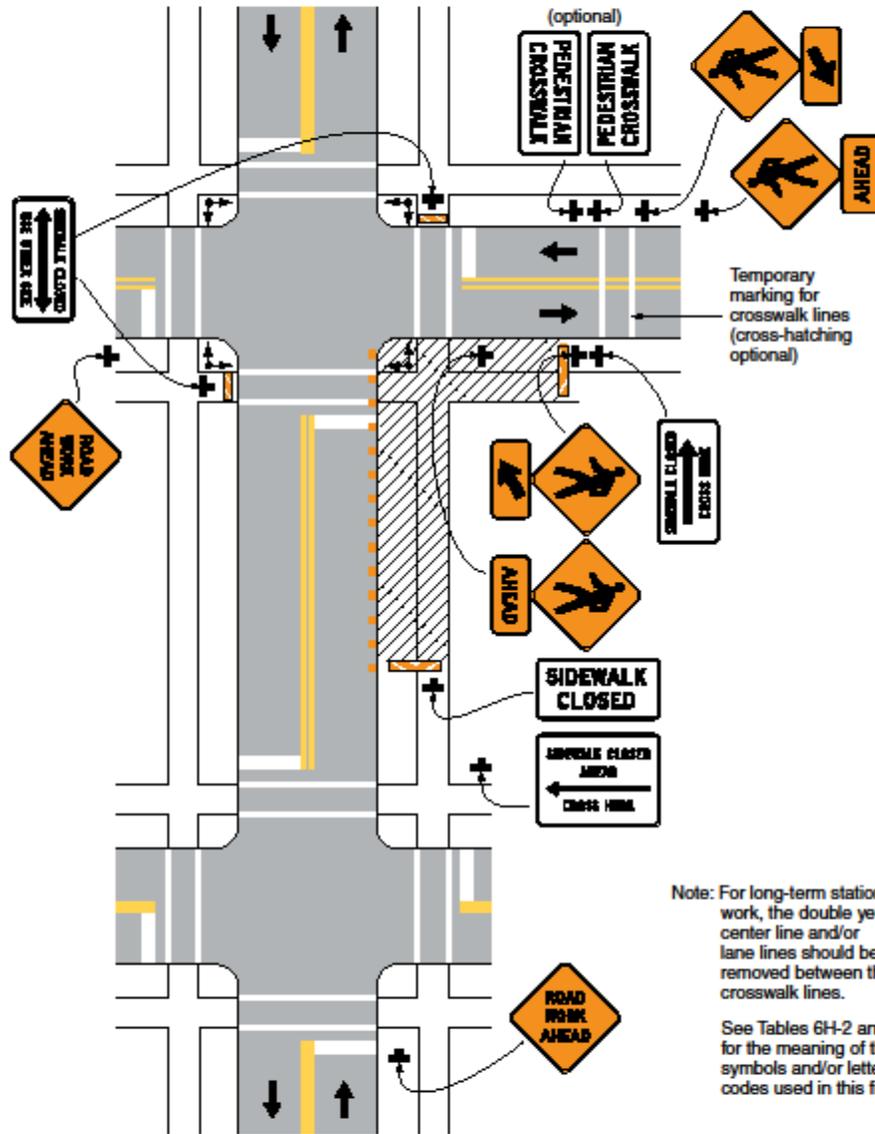


Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$100,000**

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – LIGHTED ARROW, TYPE C, FURN/OPER
ITEMS #210/211 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER**

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DESCRIPTION

This work shall consist of protecting and maintaining vehicular and pedestrian traffic in accordance with Sections 140.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction; Part 6 of the 2011 Edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the City of Ann Arbor Standard Specifications for Construction, except as modified herein.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

Materials and equipment shall meet the requirements specified in the above designated sections of the MDOT 2020 Standard Specifications for Construction.

The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. Patch areas which extend more than halfway across the roadway shall be removed and replaced so as to provide a minimum of half the pavement width at all times for maintaining traffic.

The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, Type III Barricades and/or Plastic Drums shall be placed by the Contractor, as directed by the Engineer. "Sidewalk Closed" and/or "Cross Here" signs shall be placed, by the Contractor, when directed by the Engineer.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. Existing City owned signs which are damaged by the Contractor during the work will be repaired by the City at the Contractor's expense.

Parking violation citations issued to the Contractor, subcontractor, and material suppliers including each of their respective employees shall be enforced under appropriate City Code.

The Contractor shall replace missing or damaged traffic control devices, as directed by the Engineer. When traffic control devices have been damaged by, or due to, the negligence of the Contractor, his subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

Lighted Plastic Drums, Type III Barricades, and Type B Temporary Signs

The Contractor shall furnish and operate these items as directed by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – LIGHTED ARROW, TYPE C, FURN/OPER
ITEMS #210/211 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER**

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Type III Barricades shall have standard orange-and-white stripes on both sides of the barricade.

Sufficient signs shall be provided by the Contractor to insure the safety of the workers and the general public in accordance with the 2011 Edition of the MMUTCD.

"Construction Ahead" warning signs shall be placed, as indicated on the Plans, or as directed by the Engineer, prior to the start of work, regardless of the nature, magnitude or duration of the work.

MEASUREMENT AND PAYMENT

All temporary traffic control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

Costs for transporting barricades and other temporary traffic control devices shall be included in the bid prices for the individual items of work.

Barricade, Type III, High Intensity, Double Sided, Lighted, Furn/Oper

Payment for furnishing and operating lighted Type III barricades shall be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Channelizing Device, 42 inch, Furn/Oper

There will be a one-time payment for each street for the maximum number of channelizing devices in-place (operated) at any one time, as directed by the Engineer.

Lighted Arrow, Type C, Furn/Oper

Payment for lighted arrow shall be for the maximum quantity used on each street.

Plastic Drum, High Intensity, Lighted, Furn/Oper

There will be a one-time payment for each street for the maximum number of plastic drums in-place (operated) at any one time, as directed by the Engineer.

Sign, Type B, Temp, Prismatic, Furn/Oper

Payment for temporary signs shall be for the maximum quantity used on each street.

**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – LIGHTED ARROW, TYPE C, FURN/OPER
ITEMS #210/211 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER**

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The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Each
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Each
Channelizing Device, 42 inch, Furn	Each
Channelizing Device, 42 inch, Oper	Each
Lighted Arrow, Type C, Furn	Square Foot
Lighted Arrow, Type C, Oper	Square Foot
Plastic Drum, High Intensity, Lighted, Furn	Each
Plastic Drum, High Intensity, Lighted, Oper	Each
Sign, Type B, Temp, Prismatic, Furn	Each
Sign, Type B, Temp, Prismatic, Oper	Each

**DETAILED SPECIFICATION
FOR
ITEM #206 – “NO PARKING” SIGN**

1 of 1

DESCRIPTION

This work shall consist of installing, maintaining and removing of "No Parking" signs and posts as outlined herein and as referenced on the plans. "No Parking" signs shall be installed in accordance with the Public Services Department Standard Specifications and the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

MATERIAL

All materials for this work shall conform to the requirements of the Public Services Department Standard Specifications.

CONSTRUCTION METHODS

Prior to the commencement of any construction activity, the Contractor shall place “No Parking” signs as directed by the Engineer. The Contractor shall obtain a permit for “Temporary Permission of Reserve Parking Lane for Work Related Purposes” from the City’s Project Management Services Unit. This permit shall be obtained a minimum of 5 business days prior to the posting of “No Parking” signs.

The City will furnish "No Parking" signs to the Contractor at no cost. The Contractor shall furnish the signposts and shall securely bolt the signs to the signposts as directed by the Engineer. The Contractor shall install the signposts at least two feet deep into the ground, and there shall be a minimum of six feet and maximum of seven feet of clearance maintained between the bottom of the sign and the ground. The signs are to be placed at intervals no more than 150 feet and as necessary to eliminate parking in the construction area.

The installation of "No Parking" signs shall be in accordance with the permit. "No Parking" signs shall be installed by the Contractor, as directed by the Engineer, at least 48 hours prior to the proposed start-of-work/enforcement date. "No Parking" signs shall be covered by the Contractor, thereby allowing on-street parking, until between 48 and 24 hours prior to the start of the work. "No Parking" signs shall be covered by the Contractor whenever there is no work being performed for a period of time longer than 72 hours. "No Parking" signs shall be returned to the City upon the completion of work. The cost of unreturned signs will be back charged to the Contractor.

MEASUREMENT AND PAYMENT

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

PAY ITEM

PAY UNIT

“No Parking” Sign

Each

"No Parking" signs will be measured as the maximum number installed on each street at any one time. The unit price includes the removal and return of "No Parking" signs to the City upon completion of the project. The Contractor shall be back charged for the replacement costs for damaged or unreturned signs.

**DETAILED SPECIFICATION
FOR
ITEM #215 –SEWER FLOW CONRTOL**

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DESCRIPTION

The work covered by this Detailed Specification shall consist of furnishing all labor, supervision, tools, equipment, appliances, materials, incidental items, and the installation, operation, and maintenance needed to perform all operations in connection with the diversion of flow and bypass pumping of sanitary sewage for cleaning and inspecting of sewers and manholes, and sewer rehabilitation procedures. The purpose of which is to provide un-interrupted sewerage service at all times and to prevent sewage overflows.

It is the intent of this project to divert dry weather upstream sanitary sewer flow within the work zone to other City of Ann Arbor (City) sanitary sewers by installing plugs and bypass pumps in the sewer system. The flows from the various laterals to the smaller diameter sewers connected to the sanitary sewer in the work zone shall be bypass pumped to a manhole either upstream of the plugs or downstream of the work zone. The design, installation, and operation of the temporary sewer flow control system shall be the Contractor's sole responsibility.

When working inside manholes or sewer, the Contractor shall exercise caution and comply with Occupational Safety and Health Administration (OSHA) and City requirements for working in confined spaces.

The Contractor shall manage, plan, and execute their operations such that there will be no backups, leaks, or unauthorized discharges of sewerage. The Contractor shall be completely responsible for the proper clean-up and any environmental remediation as may be required by the City or the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for any backup, leak, spill, or sanitary sewerage overflow.

SUBMITTALS

The Contractor shall provide a detailed Sewer Flow Control Plan to the Engineer for review and acceptance prior to the start of any flow control work. This plan must include descriptions outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing flow. The Sewer Flow Control Plan must be specific, including such items as schedules, locations, elevations, capacities of the equipment, materials, and all other incidental items necessary and/or required to ensure proper protection of the facilities, including protection of existing structures and pipes, and compliance with the requirements and conditions specified in these Contract Documents. The flow control plan shall be submitted to the Engineer for review and approval in accordance with Section 104.02 of the 2012 edition of the Michigan Department of Transportation Standard Specifications for Construction. No construction shall begin until all provisions and requirements have been reviewed and accepted by the Engineer.

For each submittal and re-submittal, 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 re-submitted plans, calculations, and descriptions. The Engineer's acceptance of the plan is required before beginning the work. Re-submittals shall be reviewed and returned to the 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 their schedule.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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Sewer Flow Control Plan submittal shall include at a minimum:

1. Overall flow control plan and sequence of construction;
2. Flow control schedule including times when the flow control system shall be temporarily shut down and flow allowed to return to normal operations;
3. Overall plan for removal of flow control system during wet weather events and/or emergency situations;
4. Plan for providing redundancy for all aspects of the system, especially the plugs;
5. Plan for providing noise control of pumping and power generation equipment;
6. Safety Program for confined space entry and procedure for entering manholes and installing plugs under live flow conditions;
7. Emergency clean-up plan should a spill occur or backups in the system occur. The plan should include contact names and 24-hour phone numbers;
8. Procedure for continuous (24 hour) monitoring of system, including verifying that plugs are sealed and lateral bypass pumping system is operating. The plan is to include type and location of level sensors, method of installation, set elevations of sensors, and continuous monitoring system;
9. Maintenance of traffic plan for installation and removal of plugs, road ramps, and road trenches in public roadways;
10. Maintenance of traffic plan for pedestrians at locations where sidewalk movement is restricted due to bypass operations.
11. Sewer plug types, method of installation and removal, anchors and restraints, and hydraulic head limits;
12. Lateral bypass pump sizes, capacities, power requirements, and number of each size to be provided at each manhole including redundancy;
13. Calculations giving flow capacity provided by each pump given the system's Total Dynamic Head (TDH), including the calculations that are used to derive the system TDH. This data should also include the calculations determining what the Net Positive Suction Head available is in comparison to the Net Positive Suction Head required by each pump. Pump curves shall be submitted;
14. Number, size, material, and location of lateral bypass pumping suction and discharge piping, procedure for protecting lines, and location of bypass pumping discharge manhole;
15. Lateral bypass pumping system flushing and drainage plan;

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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16. Buried bypass pipe locations and details;
17. Environment protection including pump containment and leak detection;
18. Method of protecting discharge manholes or structures from erosion and damage;
19. Method of noise control for each pump or generator; and,
20. Design plans for access to bypass pumping locations indicated on the Drawings.

FLOW DIVERSION EQUIPMENT

Provide materials and equipment suitable for, and known to be reliable to meet, the flow diversion requirements as shown on the Drawings and as needed for the Contractor's operations.

The plugs shall be temporary plugs that allows for quick removal in case of emergency or wet-weather situation and re-installation after wet weather event has passed. Plugs shall be capable of withstanding minimum static head pressure of 15 feet. Plugs shall include form or bracing, anchoring, or restraint to keep plugs properly installed. Plugs should be of the type capable of being installed under live flow conditions and in depths exceeding 35 feet as shown on the Drawings. Plugs should be able to be installed in either the incoming or outgoing pipe in a manhole and allow for quick removal under surcharged conditions. Plugs shall be clearly tagged with the Contractor's name and date of installation.

Pressure gages shall be installed with the plugs to continuously monitor the plugs and adjust the air pressure as needed to maintain full blockage of flow.

Ultrasonic level sensors shall be installed, at a minimum, at each bypass pumping location. The Contractor may elect to install sensors in other locations at their expense if they so choose. The Contractor shall be responsible for the installation and maintenance of the sensors. The level sensors shall provide continuous level readings that the Contractor shall be able to review remotely to monitor the level in the system during flow diversion. The level sensors shall provide notifications and alarms to allow the Contractor time to remove the plugs should an emergency or a wet weather event occur.

SEWER BYPASS PUMPING EQUIPMENT

Provide materials and equipment suitable for, and known to be reliable to meet, the bypass pumping requirements.

The pumps must be capable of passing a minimum of a 3-inch solid. All pumps must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows.

Equipment used for bypass pumping shall be sufficient to handle anticipated average and peak flows from each sewer. The Contractor shall maintain sanitary sewer flows within their bypass pumping system, including all wet weather flows.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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For sanitary sewerage, bypass piping shall be PVC Schedule 80, or equivalent, with solvent welded joints; or HDPE DR-11 with butt fused joints. The Contractor shall perform hydrostatic testing of the bypass pump discharge pipes with potable water in accordance with ASTM F2164 for HDPE or ASTM F2261 for PVC pipe, prior to operating bypass pumping system to ensure structural integrity of pipeline. Any defects or leaks found during testing shall be repaired and the pipeline shall be re-tested until results are satisfactory in accordance with the ASTM standard, and as acceptable to the Engineer.

Low-profile bypass piping road or driveway ramps shall be rated to handle AASHTO H-20 traffic loading and shall be secured to the road surface to prevent movement according to the manufacturer's recommendations.

REDUNDANT EQUIPMENT

The Contractor shall have redundant flow diversion equipment including, but not limited to, plugs and level sensors, available for immediate use at the job site at all times in the event of a failure.

Any damage to the Contractor's equipment, sewer system, or delays to the Contractor's operations due to equipment or plug failure/leakage shall be the Contractor's sole responsibility and no additional payment shall be made for these occurrences. The Contractor shall take all necessary precautions to verify that the plugs and flow diversion plan is operational prior to performing the work.

The Contractor shall have redundant bypass pumping equipment installed and ready for immediate operation and use in the event of an emergency or primary system breakdown or failure. The standby system shall be capable of pumping dry weather and peak flow. The standby pump(s) shall not be considered as any part of the primary system as designed for peak flow. The Contractor shall also furnish and have available onsite, and ready for operation, redundant pumping ancillary equipment in case of any failure of the pumping system including piping, electrical equipment, pipe appurtenances, etc. Redundant pumping facilities shall also include having a backup power generator in case the primary power source fails.

The Contractor shall not obstruct flows in the sewer unless the primary and redundant equipment is onsite and in operable condition and authorization has been granted by the Engineer.

FLOW DIVERSION PLAN

The sanitary sewer being rehabilitated is 30-inch trunkline sewer with two separate areas identified for the work. The flow along this sewer increases along its length as additional collector sewers flow into the pipe. The contractor shall note that the estimated peak dry weather flow ranges from 2.2 cubic feet per second (cfs) along E. Hoover Ave. to approximately 8.5 cfs at S. First St. and Miller Ave. Based on flow meter data from April 15, 2020 through April 14, 2022 at MH 71-71426 on S. Division St., the wet weather peak flow can be as much as 8 times the average. The Contractor is to take all necessary precautions when installing the plugs in these sewers under live flow conditions. Flow diversion operations shall be limited to dry weather periods to avoid peak flow conditions.

Sewer flow control for this project shall be accomplished with multiple set-ups as detailed in the following pages:

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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S. State St. to S. Division St.:

The contractor shall divert flows from the 30-inch sewer along White St. by plugging the upstream connection of MH 71-71491 and diverting the flow from the upstream manhole MH 71-71490 south into the adjacent 21-inch sewer at MH 71-71536. As-built drawings indicate an average depth of approximately 16 feet for the 30-inch sewer along White St. The contractor shall monitor levels in the sewer and take precautions to maintain the pumping level below typical basement depths to avoid sewer backups.

The contractor shall divert incoming flows to the 30-inch sewer along S. State St. by plugging the 8-inch and 15-inch sewers entering MH 71-71554, and along E. Hoover Dr. by plugging the 15-inch sewer entering MH-71-71425. The 8-inch sewer provides residential service to 5 buildings and the contractor shall monitor levels in the sewer while plugged and take precautions to avoid sewer backups. The 15-inch sewer along S. State St. shall be diverted by pumping from MH-71-71553 across E. Hoover Ave. and along E. Hoover Ave. and discharging to MH 71-71422. The flow from the 15-inch sewer along E. Hoover Ave. shall be diverted by pumping from MH 71-71455 and also discharge to MH 71-71422. The contractor may connect these bypass pipes to form a common bypass pipe to the ultimate discharge.

1. Open excavation of E. Hoover Ave. is prohibited.
2. Two-way traffic must be maintained at all times.
3. Only road ramps rated for highway traffic loading (AASHTO H-20) will be permitted across E. Hoover Dr.
4. Pedestrian traffic must be maintained at all times. The contractor shall provide ADA accessible sidewalk ramps where practical. If ramps are not used, pedestrian traffic control signage shall be placed to guide pedestrians to the nearest accessible crossing.
5. The Contractor shall verify and document sewer lateral locations for the Intramural Sports Facility as part of the sewer cleaning and televising process, and make provisions for maintaining service to that facility.

W. Jefferson St. to W. William St.:

The contractor shall divert flows from the 30-inch sewer along S. Ashley St. by plugging the 30-inch sewer and the 12-inch sewer that enter MH 71-70705, and pumping from MH-71-70703, and from MH 71-70702. The bypass pipe shall be routed above grade along S. Ashley St., then along west side of the railroad right-of-way to W. William St. to discharge into MH 71-70480.

The 8-inch sewer along S. First St. shall be plugged where it enters MH 71-70837 as needed to isolate the pipe being cleaned and lined. As-built information indicates that the 8-inch sewer is approximately 8 feet deep. The contractor shall monitor levels in the sewer while plugged and take precautions to avoid sewer backups. If necessary, the contractor may bypass pump the flows from MH 71-073939 to MH 71-70480.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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1. Traffic control signage shall be provided for the temporary closure of the intersection of W. Jefferson St. and S. Ashley St.
2. Two-way traffic must be maintained at all times along S. First St.
3. Pedestrian traffic must be maintained at all times. The contractor shall provide ADA accessible sidewalk ramps where practical. If ramps are not used, pedestrian traffic control signage shall be placed to guide pedestrians to the nearest accessible crossing.
4. Installation of bypass piping along the railroad right-of-way shall comply with all permit requirements outlined by the agency having jurisdiction.

W. William St. to W. Washington St.

This section of interceptor sewer contains several connections from local collector sewers. The description provided herein identifies the sewer plugs, bypass pumping and discharge locations, and road crossing locations. The contractor may, at their discretion, perform the bypass pumping for this section in more than one setup, as detailed in their bypass plan submittal prior to beginning work.

The contractor shall divert flows from the 30-inch sewer along S. First St. by plugging the 30-inch sewer at the upstream connection of MH 71-70480. The 30-inch sewer shall be diverted by pumping from MH 71-70837 across and along S. First St. to the north, across W. William St., along the west side of the railroad right-of-way, across W. Liberty St., along the pedestrian walk way through the City owned parking area, west under the railway bridge and north across W. Washington St. to discharge to MH 71-70474. The bypass manholes shall be cored to accommodate the bypass pipe and the road crossings shall be installed in a trench to maintain traffic.

The contractor shall divert flows from the 15-inch sewer along W. William St. by plugging the upstream connection of the 15-inch sewer at MH 71-70647 and pumping from MH 71-072989. The bypass shall cross the north lane of W. Washington St. with a road ramp, and connect to the main bypass pipe to ultimately discharge at MH 71-70474. As-built drawings indicate an average depth of approximately 13 feet for the 15-inch sewer along W. William St. The contractor shall monitor levels in the sewer and take precautions to maintain the pumping level below typical basement depths to avoid sewer backups.

The contractor shall divert flows from the 12-inch sewer coming from the west along W. Liberty St., by installing a plug in the downstream side of MH 71-70512 and pumping from that same manhole. The bypass pipe shall be cored through the manhole and connected with the main bypass pipe in the road crossing trench to maintain traffic and ultimately discharge at MH 71-70474.

The contractor shall divert flows from the 10-inch sewer serving S. First St. and W. Liberty St. by plugging the upstream connection at MH 71-70465 and pumping from MH 71-70471. The bypass shall cross the

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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north lane of W. Liberty St. with a road ramp, and be routed above grade to the north along S. First St., to connect with the main bypass pipe to cross W. Washington St. and ultimately discharge at MH 71-70474.

The contractor shall divert flows from the 21-inch sewer from the west along W. Washington St. by plugging the upstream 21-inch connection at MH-70467, and pumping from the nearest upstream manhole MH 71-70551. The suction connection shall be cored through the manhole and the bypass pipe shall cross the north side of W. Washington St in a trench to maintain traffic and be routed east to ultimately discharge at MH 71-70474. As-built drawings indicate an average depth of approximately 16 feet for the 21-inch sewer along W. Washington St. The contractor shall monitor levels in the sewer and take precautions to maintain the pumping level below typical basement depths to avoid sewer backups.

The contractor shall install a plug on the 10-inch connection at MH 71-70466 to divert flow to continue west through the existing 10-inch sewer along W. Washington St.

1. Two-way traffic must be maintained at all times along S. First St.
2. The road crossings for this bypass pipe across S. First St., W. William St., W. Liberty St., and W. Washington St. shall all be accomplished by cutting a trench into the existing road surface. Road cuts shall be located outside of the limits of new pavement from the recent S. First St. reconstruction project. The pipe shall be surrounded by compacted 21AA limestone and the trench covered by steel road plates, to maintain traffic. Once the bypass is complete, the pipe shall be removed, and a 10-foot wide strip of the road shall be sawcut to a clean edge. The road shall be restored according to the approved cross section details in the plan and any damaged pavement markings shall be restored.
3. Traffic control, including advanced warning and detour signage shall be provided during temporary road closures for trenching the bypass pipe at the road crossings. With approval from the City, temporary road closures may occur during nighttime hours to minimize disruption to motorists.
4. Pedestrian traffic must be maintained at all times. The contractor shall provide ADA accessible sidewalk ramps where practical. If ramps are not used, pedestrian traffic control signage shall be placed to guide pedestrians to the nearest accessible crossing.
5. Installation of bypass piping along the railroad right-of-way shall comply with all permit requirements outlined by the agency having jurisdiction.
6. The trench crossing of W. Washington St. shall also be utilized during the bypass operations for the segment from W. Washington St. to Miller Ave.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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W. Washington St. to Miller Ave.

The contractor shall divert flows from the 30-inch sewer along S. First St. by plugging the 30-inch sewer at the upstream connection to MH 71-70473 and pumping from the nearest upstream manhole MH 71-70466. The bypass shall be routed along the west side of First St., north across W. Washington St., across W. Huron St., and across W. Ann St. to ultimately discharge to MH 71-70536. The bypass manholes at W. Washington St. and W. Huron St. shall be cored to accommodate the bypass pipe and the road crossings of the same shall be installed in a trench to maintain traffic. A low-profile road ramp shall be used at W. Ann St. to maintain traffic at that bypass crossing.

The contractor shall divert flows from the 10-inch sewer along W. Huron by plugging the downstream connection of MH 71-70475 and pumping from the same. The bypass pipe shall be cored through the manhole and connected with the main bypass pipe in the road crossing trench to maintain traffic and ultimately discharge at MH 71-70536.

The contractor shall divert flows from the 8-inch sewer along N. First St. at W. Ann St. by plugging the downstream (north) 8-inch connection of MH 71-70477 to direct sewer flow to continue west along the existing 10-inch sewer.

The 8-inch sewer along N. First St. near Miller Ave. shall be plugged where it enters MH 71-70536 as needed to isolate the pipe being cleaned and lined. As-built information indicates that the 8-inch sewer is approximately 10 feet deep. The contractor shall monitor levels in the sewer while plugged and take precautions to avoid sewer backups. If necessary, the contractor may bypass pump the flows from MH 71-70605 to MH 71-70536.

The contractor shall divert flows from the 20-inch sewer along Miller Ave. by plugging the downstream 20-inch connection at MH 71-70538 and pumping from the same into the adjacent 18-inch sewer at MH 71-073545.

1. The road crossings for this bypass pipe across S. First St., W. Washington St., and W. Huron St. shall all be accomplished by cutting a trench into the existing road surface. Road cuts shall be located outside of the limits of new pavement from the recent S. First St. reconstruction project unless otherwise noted on the plans. The pipe shall be surrounded by compacted 21AA limestone and the trench covered by steel road plates, to maintain traffic. Once the bypass is complete, the pipe shall be removed, and a 10-foot wide strip of the road shall be sawcut to a clean edge. The road shall be restored according to the approved cross section details in the plan and any damaged pavement markings shall be restored.
2. Traffic control, including advanced warning and detour signage shall be provided during temporary road closures for trenching the bypass pipe at the road crossings. With approval from the City, temporary road closures may occur during nighttime hours to minimize disruption to motorists.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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3. Pedestrian traffic must be maintained at all times. The contractor shall provide ADA accessible sidewalk ramps where practical. If ramps are not used, pedestrian traffic control signage shall be placed to guide pedestrians to the nearest accessible crossing.
4. All work in the W. Huron St. right-of-way is within the Michigan Department of Transportation (MDOT) jurisdiction and shall follow the permit requirements of MDOT.
5. Only road ramps rated for highway traffic loading (AASHTO H-20) will be permitted across W. Ann St.

The Contractor shall construct and maintain bypass pumping facilities as needed that will pump at the required flow rates. Estimated peak average flow rates are indicated on the plans. The Contractor shall provide the City with a minimum of 7 days advance notice prior to initiating the sanitary sewer bypass pumping system.

The Contractor shall install plugs, bypass pumping equipment and level sensors and test the system for a minimum of 48 hours prior to the start of any other work onsite. The Contractor, City, and Engineer shall review the flow diversion during the testing period, including flow levels in the manholes. The Contractor shall not start any other work onsite until acceptance of the diversion test.

LATERAL BYPASS PUMPING

Service laterals that enter the mainline sewer shall be bypass pumped to the downstream bypass pumping manhole or blocked if a bypass is not available. If a lateral is plugged and/or blocked, the Contractor is responsible for coordination with the property owner to ensure flow is minimized and to prevent a sewer backup. The Contractor is responsible for all sewer backups that occur during all bypass work.

PERMITTING

The Contractor is responsible for obtaining all approvals for placement of the temporary equipment and/or piping within public ways from the Agency having jurisdiction.

The following permits will be applied for by the Engineer for the High Level Trunkline Sewer Bypass:

1. Michigan Department of Transportation (MDOT)
2. Ann Arbor Railroad

Contractor shall be responsible for obtaining final permits from WCRC, WCWRC and MDOT, including payment of all permit fees and agreeing to permit requirements. If the Contractor alters the proposed bypass arrangement presented in the plans, securing all subsequent agency approvals will remain the Contractor's sole responsibility.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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GENERAL REQUIREMENTS

The Contractor shall provide an adequate labor force and have designated personnel onsite for maintenance and operation, and emergency back-up service, of the bypass pumping facility 24 hours per day 7 days per week during bypass operations.

Anytime bypass pumping operations cease as required due to weather conditions described in Detailed Specification “Extension of Time, Additional Compensation” or as required by the Engineer, the Contractor shall drain the bypass pump discharge line back into the sanitary system as described in the Sewer Flow Control Plan and as directed by the Engineer to avoid freezing of the pipeline.

The Contractor is to arrange for and provide all necessary temporary power, electrical service, board switches, etc. as required by DTE Energy and the National Electrical Code (NEC) current edition to provide temporary bypass pumping.

All bypass pumping discharge pipes shall be protected from the pipe header to the discharge structure. The Contractor shall provide necessary fittings or deflection in pipe to route pipe as necessary to minimize environmental impact and conflict with pedestrian, construction, and emergency vehicle traffic. When the bypass pipeline crosses drives or trails, or when pipeline is within any Contractor work zone/staging area, the Contractor shall place the bypass pipeline in a casing pipe and/or bury in temporary trenches with compacted backfill as indicated on the Drawings, as required for the Contractor’s operations, and as approved by the Engineer. All work associated with temporary bypass discharge pipe trench, including piping, fittings, deflections, supports, casing, spacers, trenching, backfill and pavement replacement shall be included in the contract pay item “Sewer Flow Control.”

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 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.

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONTROL**

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WET WEATHER EVENT

A wet weather event is defined as an event that causes the flow in the system to surcharge.

When a wet weather event occurs, the Contractor shall cease all operations in the sewer system and remove all plugs. The plugs shall be removed so as not to cause a surge downstream.

It is the Contractor's responsibility to monitor the weather and verify weather conditions prior to the start of any work that could have an impact on the capacity of the affected sewers. Any damage to the Contractor's equipment, sewer system, or delays to Contractor's operations due to wet weather conditions shall be the Contractor's sole responsibility and no additional payment shall be provided.

The only exception to that is if the temporary removal of the flow diversion plugs and bypass pumping system occurred after the sewers had been cleaned, televised, prepped for lining, and approved by the Engineer before the sewers were lined. In such an event, the Contractor may request compensation for the re-cleaning of the pipes only. The re-cleaning must first be approved by the Engineer prior to the work beginning.

No compensation shall be provided for the removal and re-installation of the plugs due to wet weather events as described in Detailed Specification "Working in the Rain."

NOISE CONTROL

All noise generated by the bypass pumping operation shall not exceed the sound limits, and shall follow necessary procedures as required for temporary exemptions, as defined in Detailed Specification "Hours of Work." The Contractor shall provide a secondary sound barrier for both the primary and back-up pumps and any power generating equipment.

FLOW DIVERSION AND BYPASS PUMPING COMPLETION

At the end of the flow control operation, and after receipt of written permission from the Engineer, the Contractor shall remove all flow diversion and bypass pumping equipment, including level control system, temporary power equipment, and suction/discharge piping in a manner that permits the sewage flow to return to normal without overflowing to the environment, surcharging, or causing other major disturbances downstream. The Contractor shall restore all disturbed areas and structures, and restore all pavement in accordance with Detailed Specification, "Project Clean-Up and Restoration, Special" and as directed by the Engineer.

The duration of the bypass pumping shall be determined by the Contractor as needed to perform the work under this contract while maintaining un-interrupted sewage service.

FLOW CONTROL PRECAUTIONS

When flow in a sewer line is bypassed or plugged, sufficient precautions must be taken to protect the sewer liner and the Contractor's operations from damage that might result from sewer surcharging. Further, precautions must be taken to ensure that sewer flow control operations do not cause flooding or damage to

**DETAILED SPECIFICATION
FOR
ITEM #215 - SEWER FLOW CONRTOL**

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public or private property being served by the sewers involved. At no time shall sewage be pumped in or allowed to flow into a catch basin, storm sewer, or open watercourse.

When using low-profile bypass road ramps, the Contractor shall check the pipe connections for leaks daily and whenever the pumps are started. The Contractor shall monitor the operation of bypass road ramps 24 hours per day 7 days per week during bypass operations. Advance warning signs shall be used to warn motorists of ramps.

MEASUREMENT AND PAYMENT

The completed work shall be paid for at the contract unit price for the following contract pay item:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Sewer Flow Control	Lump Sum

The contract unit price for this item shall include all labor, supervision, tools, permits, shop drawing submittals, materials, equipment, operation, any incidental items, and all other work as noted on the Drawings and as specified herein to allow the Contractor to perform the work of diverting and bypass pumping flows as detailed herein.

The installation, maintenance, operation, monitoring, and removal of the level sensors shall not be paid for separately, but shall be included in the item of work "Sewer Flow Control."

The removal and replacement of pavement to install the bypass piping across driveways and roadways as shown in the approved Drawings shall not be paid for separately, but shall be included in the item of work "Sewer Flow Control."

The cost for the sewer flow control shall be paid for as a Lump Sum item regardless of the duration, number of, and/or duration of the wet weather events encountered, flow encountered, weather conditions, or number of times flow control system is temporarily removed and re-installed.

30% of the lump sum shall be paid for Sewer Flow Control following the initial installation, 48-hour test, and acceptance of the system by the Engineer. The remainder of the cost shall be paid for at the conclusion of all flow diversion activities and after the removal of all equipment from the site.

**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

1 of 6

DESCRIPTION

This work shall consist of the cleaning and video inspection of sewer and siphon pipes, chambers, and manholes, and providing the required documentation as described herein. All work shall be performed in accordance with the City of Ann Arbor (City) Standard Specifications, except as modified herein, and as directed by the Engineer.

The Contractor is responsible for video recording and cleaning the pipe before lining, and video recording after lining. Pipeline inspection and videotaping shall be in accordance with National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) requirements.

The Contractor is responsible for inspecting all manholes and chambers as indicated on the Drawings in accordance with NASSCO Manhole Assessment and Certification Program (MACP) Level 2 requirements.

SUBMITTALS

The Contractor shall provide a detailed sewer cleaning and televising plan to the Engineer for review and acceptance prior to beginning the work. This plan must include descriptions outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing flow. The cleaning and televising plan must be specific, including such items as schedules, locations, type of equipment, details on water source, plans for disposal, and all other incidental items necessary and/or required to ensure proper protection of the facilities and surroundings, including protection of the access locations from damage, and compliance with the requirements and permit conditions specified in these Contract Documents.

The cleaning and televising plan shall be submitted to the Engineer for review and approval in accordance with Section 104.02 of the 2020 edition of the Michigan Department of Transportation Standard Specifications for Construction. No work shall begin until all provisions and requirements have been reviewed and accepted by the Engineer.

For each submittal and re-submittal, 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 re-submitted plans, calculations, and descriptions. The Engineer's acceptance of the plan is required before beginning the work. Re-submittals shall be reviewed and returned to the 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 their schedule.

Sewer cleaning and televising plan and submittals shall include at a minimum:

1. Copy of PACP/MACP Certifications for sewer televising personnel and manhole inspection personnel;
2. Proof of PACP/MACP certified software;
3. Safety program for confined space entry;
4. Information on equipment, trucks, tanks, etc., including, but not limited to, dimensions, required turning radius, fuel type, any special requirements, etc.;

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**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

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5. Staging areas for equipment, trucks, tankers, etc.;
6. Schedule for cleaning and televising of pipe lines, manholes, and chambers.;
7. Planned hours of operation, including equipment idling, etc.;
8. Number, size, material, and location of hose/piping;
9. Information on cleaning equipment;
10. Sludge and debris dewatering, transportation, and disposal procedure and location;
11. Environment protection including equipment and pipe containment, leak detection, and/or remediation plan; and,
12. Method of noise control for all equipment.

CONSTRUCTION

The Contractor shall carry out their operations in strict accordance with all Occupational Safety and Health Administration (OSHA), Michigan Occupational Safety and Health Administration (MIOSHA), and manufacturer's safety requirements.

Safety. – The Contractor shall be solely responsible for safety of all those involved with the work during the performance of all work. The Contractor shall not enter into any sewer segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by the Contractor. The Contractor shall perform all work in accordance with the latest OSHA confined space entry regulations. The Contractor shall coordinate their work with local fire, police, and emergency rescue unit.

The Contractor shall be responsible for any damage to public or private property resulting from their televising and cleaning activities and shall repair or otherwise make whole such damage at no cost to City and owner of the property.

Flow Diversion/Lateral Bypass Pumping.- The Contractor shall provide for the transfer of main line flow around the section or sections of pipe that are to be cleaned and televised, as required to complete cleaning, televising, and inspection work. The diverting and lateral bypass pumping work shall be performed in accordance with Detailed Specification “Sewer Flow Control” and as directed by the Engineer.

If the Contractor chooses to only divert part of the flow during their sewer cleaning operations, the Contractor must indicate that in their submittal, including which plugs would be installed. Contractor to note that all plugs, level sensors, and lateral bypass pumping system shall be in operation for the sewer televising, manhole inspections, and the chamber inspections.

Sewer Cleaning.- Each sewer section shall be cleaned to a degree sufficient to allow video inspection and cured-in-place pipe (CIPP) lining to be completed in accordance with this specification and Detailed

**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

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Specification "CIPP Sewer Lining." The Contractor shall take precautions to protect the sewer lines from damage. The existing sewer has not been cleaned or inspected in decades. The Contractor shall assume the sewer will require heavy cleaning with unlimited passes to achieve a clean sewer and that rodding and root cutting shall be required and are included in the contract pay item.

The Contractor must adhere to the requirements of ASTM F1216 or ASTM F1606 for the following types of cleaning: hydraulic cleaning, high velocity hydro-cleaning, and mechanical cleaning.

Remove dirt, grease, rocks, sand, roots, and other solid or semisolid materials and obstructions from the sewer line and manholes. Cleaning shall be of the entire reach between manholes and/or chambers.

It shall be the responsibility of the Contractor to clear the line of obstructions such as solids, dropped joints, debris from collapsed pipe, sediment deposits, mineral deposits, stalactites, and all major blockages that would prevent sewer rehabilitation work to be performed at no additional cost to the project.

The sewers shall be cleaned by using a high pressure water cleaning machine with minimum capability of 5,000 pounds per square inch (psi) at 80 gallons per minute (gpm). A high pressure hose with a jet nozzle shall be introduced into the sewer so that a spray shall scour and clean the sewer line without applying internal pressure and damaging the pipe. This will require an unlimited amount of passes of the jet nozzle, or other cleaning measures to remove all debris. The hose shall be self-propelled by a minimum water pressure of 1,000 psi. Cleaning pressures to 5,000 psi may be required to remove heavy tuberculation and adhered debris from the pipe interior. The jet nozzle hose, upon withdrawal, will scour the pipe (invert, walls, and crown), flushing all materials into the downstream manhole for removal.

Due to the sensitive nature of the project work site the Contractor shall notify the Engineer for review and approval before proceeding.

Material removal shall be performed at the identified-for-access manholes for the cleaning operation. At no time during cleaning shall material be allowed to enter or flow in the sewer past the downstream access manhole. Passing material from manhole section to manhole section shall not be permitted. All debris and waste material shall be completely removed from the sanitary sewer system and shall be disposed of by the Contractor in accordance with Detailed Specification "Removal and Disposal of Sludge and Debris Material."

Mechanical root cutting shall be performed with powered equipment. The Contractor shall furnish suitable power machinery which shall be used to remove tree roots and deposits remaining after jet cleaning that prevent passage of television inspection equipment or prevent the lining of the sewer.

The Contractor shall provide digital video on DVD, flash drive, or hard drive that verify that the sewer is clean and free of sediment and debris to the satisfaction of the Engineer. If any sewer is not satisfactorily cleaned, it shall be promptly cleaned and re-inspected by closed-circuit television camera and video provided to the Engineer for review and approval.

**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

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If the sewer has material and debris that prevents the proper installation of the CIPP, prohibits video inspection, or is not cleaned to the satisfaction of the Engineer, the sewer shall be re-cleaned and re-televised at the Contractor's sole expense.

The sewer shall not be lined until such time as the cleaning operations have been approved in writing by the Engineer. Field Inspection personnel shall not be allowed to authorize the Contractor to begin installation of the CIPP sewer liner.

Extensions of contract time will not be granted for delays associated with re-cleaning and re-televising the sewer except as outlined under Detailed Specification "Extension of Time, Additional Compensation."

The cleaning and removal of the material out of the sewer system shall be paid for as part of the "Clean ___-inch Dia. Sanitary Sewer" contract pay item. All other work necessary for the final disposal of the material shall be paid for as part of the "Removal and Disposal of Sludge and Debris Materials" contract pay item.

Manhole and Chamber Cleaning.- All sanitary manholes shall be cleaned to a degree sufficient to perform the Level 2 MACP manhole inspection and as acceptable to the Engineer. The manhole structures shall be cleaned below their invert elevations with a power vacuum, or other Engineer-approved method, to remove all sediment to allow for the inspection of the bottom of the structures.

The Contractor shall assume the manholes require heavy cleaning with multiple passes to achieve a clean manhole. Manhole cleaning shall be incidental to the sewer cleaning and no additional payment shall be provided.

Sewer Television Inspection.- The initial "pre-rehabilitation" television inspection of the sewers pipes shall be conducted within a week of the cleaning of each segment as long as the flow diversion and lateral bypass pumping system has remained in operation. Should the flow diversion have been temporarily suspended between the cleaning and the televising, or between the initial televising and the lining, then both the cleaning and televising shall be repeated at no additional cost to the project except as described in Detailed Specification "Extension of Time, Additional Compensation."

The camera must be operative in 100% relative humidity conditions. The live image obtained by the camera shall be transmitted to a color monitor of not less than 19 inches. The camera and monitor shall have a minimum 500 line resolution. The monitor shall be located inside the mobile recording studio.

Lighting for the camera shall be adequate to allow a clear picture of the entire periphery of the sewer and shall be varied as required to be effective for all pipe diameters inspected. Remote control of lighting brilliance, camera focus, and camera movement shall be from a control panel inside the mobile recording studio. Cables and equipment used to propel the camera shall not obstruct the camera view or interfere with the documentation of the sewer conditions.

The camera shall be moved through the sewer line at a uniform rate, maximum 30 feet per minute. Whenever possible, the camera shall move in an upstream direction. The camera shall be stopped for no less than 10 seconds at the manhole entrances, each service lateral, exit manholes, and at all points where the sewer is damaged or deficient. The camera shall pan and tilt to provide full view of each service lateral, and at all points where the sewer is damaged or deficient.

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**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

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If the camera fails to pass through a pipe section, the Contractor shall re-set the equipment and attempt to perform the inspection coming back from the next upstream, identified-for-access, and manhole. If the inspection cannot be completed from the next manhole, the inspection shall be considered complete and the Engineer will provide written instructions to the Contractor describing how to proceed with the work in that reach of sewer.

The cost of the initial television inspection shall be included in the Pay Item: "Clean ___-inch Dia. Sanitary Sewer". The post rehabilitation television inspection shall be performed once the liner has been installed and cured. No payment shall be provided for post rehabilitation television inspection.

Manhole Inspection.- All sanitary manholes 2 shall be Level 2 MACP inspected. The Level 2 MACP inspections shall gather detailed information to fully document all defects, determine condition of the manhole, and provide specific information needed to recommend corrective action. Level 2 MACP inspection shall use the established defect coding system found in the PACP to the extent possible.

Line Obstructions/Repairs.- If the pre-rehabilitation video inspection reveals areas that require excavation and removal of a section of pipe, and/or spot repair, the Contractor shall submit in writing a request for authorization to perform the excavation, removal, and spot repairs, along with sufficient proof that these repairs are indeed necessary. Such requests shall include method of spot repair, type and manufacturer of repair pipe, method of connection, etc., and shall be submitted prior to commencement of the rehabilitation process. If removal and replacement of pipe, spot repairs, or other measures are required to allow the sewer pipe to be properly rehabilitated, this will be paid for as Extra Work at a price as agreed upon between the Contractor and the Engineer.

Documentation.- The Contractor shall use the City's manhole numbering system on all project documentation. The City will provide the Contractor with utility maps or Drawings showing the manhole numbers.

The Contractor shall provide to the City inspection logs listing the location in relation to adjacent manholes of each infiltration point, service leads, unusual conditions, roots, sewer connections, collapsed sections, presence of scale and corrosion, cracked pipe, wide joints, and other discernible features. The logs shall indicate size and type of pipe material, length of line from manhole, and direction of sewage flow, if present. The logs shall also indicate the time and date of recording. Each log shall be named with the pipe inspections from starting manhole to terminus manhole for each stretch of sewer. All logs shall be in accordance with NASSCO PACP and MACP standards, Version 7.0.

The Contractor shall provide color photographs of sewer laterals and all problem areas.

A color DVD and suitable log with voice and/or computer generated description for both pre- and post-rehabilitation inspection shall be made by the Contractor and kept for later reference by the Engineer.

The Contractor shall supply the Engineer with two electronic copies of the entire and final televised program, including PACP database, MACP database, video pipe recordings, reports on two separate flash drives or portable hard drives. Each drive shall contain the entire package of information. The data shall be provided within 15 working days of completion of field work. The information for individual databases, sewer segments, and recordings shall not be split into several drives. The flash drives or portable hard drives and information within it shall become the property of the City.

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**DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWER AND MANHOLES**

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MEASUREMENT AND PAYMENT

The completed work shall be paid for at the contract unit price for the following contract pay item:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Clean __-inch Dia. Sanitary Sewer	Lineal Foot
Level 2 MACP Inspect Manhole	Each

Payment shall be made on a lineal foot basis for the cleaning and televising of sanitary sewer. Measurements shall be from manhole to manhole, and shall take place with both the Engineer and the Contractor (or their agents) present. Measurements shall be recorded and logged on a daily basis.

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified herein.

**DETAILED SPECIFICATION
FOR
ITEM #221 - REMOVAL AND DISPOSAL OF SLUDGE AND DEBRIS MATERIAL**

1 OF 2

DESCRIPTION

This work shall consist of removal and disposal of sludge and debris material as a result of the sanitary sewer, manhole, and chamber cleaning operations.

Sanitary Sewer Material.- The material removed from cleaning the 36-inch sanitary sewer pipes and manholes shall be removed from the system as described in Detailed Specification, "Cleaning and Televising Sewer and Manholes" and hauled offsite for legal disposal.

The removal of the material out of the sewer system shall be paid for as part of the sewer or chamber cleaning contract pay item. All other work necessary for the final disposal of the material shall be paid for as part of the "Removal and Disposal of Sludge and Debris Material" contract pay item.

Disposal.- The Contractor shall remove the wet sludge, sediment, debris, and other material from the sewer system and dewater the material at an offsite location, in vacor trucks onsite, or by other means as required for legal disposal and as approved by the Engineer. No material shall be accumulated onsite unless approved by the Engineer. When removing waste, the material shall be decanted to remove as much of the free liquid as possible. If dewatering onsite, the Contractor may discharge the free liquid (supernatant) back into the sanitary sewer at a downstream manhole. The hauled off solids/sludge/material shall be transported in sealed transport trucks. Supernatant shall not be allowed to leak out of the transport trucks onto the roads.

The Contractor shall be responsible for all fees, including all testing fees, material transport, dewatering, drying, and disposal at an approved landfill facility. The Contractor shall provide certified manifests from the landfill, indicating in and out weights of all transport vehicles containing wastes absent of free liquids, to the Engineer.

Solids Material Testing.- Solid waste material holding free liquids are prohibited from disposal at municipal solid waste landfills. The Contractor shall demonstrate the absence or presence of free liquids in accordance with Method 9095B (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. Material passing the Paint Filter Liquids Test shall be considered "dry."

The City of Ann Arbor (City) believes the sludge is not hazardous and can be disposed of in a Type II landfill. The landfill may require the Contractor to provide proof that the materials are non-hazardous prior to disposal. The Contractor shall be responsible for collecting a sample of the sludge and testing it prior to the start of the sewer/siphon/chamber cleaning.

The Contractor shall provide copies of the sampling results to the Engineer. If required by the landfill, the Contractor is responsible to re-test the material and verify there are no hazardous materials in the sludge and/or debris prior to shipping it to the landfill. No additional payment shall be made for testing or re-testing and verifying the material content.

**DETAILED SPECIFICATION
FOR
ITEM #221 - REMOVAL AND DISPOSAL OF SLUDGE AND DEBRIS MATERIAL**

1 OF 2

MEASUREMENT AND PAYMENT

The completed work shall include all labor, material, fees, tests, and equipment costs to perform all the work specified in the Detailed Specifications and as modified herein to properly dispose of the sediment, debris, sludge, and all other inert material removed from the sewer system.

The complete work as measured for these items of work will be paid for at the contract unit prices for the following contract pay items:

PAY ITEM

PAY UNIT

Removal and Disposal of Sludge and Debris Material Tons

The item "Removal and Disposal of Sludge and Debris Material" shall be a paid for in tonnage of "dry" material absent of free liquids based on the landfill manifests and shall be payment in full for all materials, equipment, and labor necessary to complete this item, including drying the material to the point where it will pass the paint filter test as required by the disposal facility and transporting it to the landfill for disposal.

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

1 of 9

DESCRIPTION

This work shall consist of rehabilitating pipelines by the insertion of a resin impregnated flexible lining and cured-in-place to form a pipe. The cured-in-place pipe (CIPP) shall be saturated with a thermosetting resin and inserted into the existing pipeline. Curing shall be accomplished by circulating hot water only to harden the resin into a hard impermeable pipe. When cured, the hardened CIPP shall be a tight fitting watertight pipe within a pipe. The CIPP shall be continuous from manhole to manhole with no circumferential joints or seams. Except as otherwise specified herein, all work shall be performed in accordance with the City of Ann Arbor (City) Public Services Area Standard Specifications, and as directed by the Engineer.

For a CIPP system to be considered acceptable, the CIPP system must have at least two million lineal feet of successful, documented installations, a minimum of 250,000 lineal feet of which shall have been in Midwestern United States or Canada.

When requested by the Engineer, the Contractor shall submit test results from previous field installations of the same resin system and tube materials as proposed for this installation. The test results must verify that the CIPP physical properties specified in this Detailed Specification have been achieved in the field.

The lining operation shall not begin until the sewer has been cleaned and video inspected in accordance with the Detailed Specification "Cleaning and Televising Sewer and Manholes" and authorization to begin by the Engineer has been granted.

DESIGN CONSIDERATIONS

The required structural CIPP wall thickness shall be based, at a minimum, on the physical properties of the cured composite and per the design of the Professional Engineer. The finished liner shall be designed per ASTM F1216 Appendix X1 for the following condition:

Condition	Fully deteriorated gravity pipe
Safety Factor	2
Ovality	As measured by Contractor during sewer inspection, assume 2% for bidding purposes
Soil Density	130 pounds per cubic foot (lbs/cft)
Soil Modulus.....	700 pounds per square inch (psi) for pipe inverts up to and including 15 feet deep, 1,000 psi for pipe inverts greater than 15 feet deep
Groundwater Depth:.....	As field verified
Surcharge Loading	HS-20 (Highway) when any part of the sewer is under any major street, county road, or state highway; E-80 (Railroad) when under any railroad.

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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The acceptable resin system values to be incorporated into the formula for liner thickness shall not be greater than the following:

Table 1

	Polyester	Enhanced Polyester	Vinyl Ester	Epoxy
Short Term Flexural Modulus (psi)	300,000	400,000	250,000	300,000
Long Term Flexural Modulus (psi)	150,000	200,000	125,000	150,000
Creep Retention Factor	50%	50%	50%	50%
Flexural Strength (psi)	4,500	4,500	4,500	5,000

Where the requirements of this specification conflict with ASTM F 1216 or ASTM D5813 this Detailed Specification shall govern.

The Contractor shall determine the liner thickness and resin quantity for this project per ASTM F1216, Appendix X1. Liner thickness, resin, and resin quantity shall be furnished to the Engineer for review and approval prior to beginning work. The design calculations for wall thickness shall be completed by a Professional Engineer proficient in the design of pipeline systems, licensed in the State of Michigan, with design calculations signed and sealed. The CIPP design shall assume no bonding to the original pipe wall.

The Contractor shall submit, prior to installation of the lining materials, certification of compliance with these specifications. Certified material test results shall be included that confirm that all materials conform to these specifications. Materials not complying with these requirements will be rejected.

For each submittal and re-submittal, 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 re-submitted plans, calculations, and descriptions. The Engineer's acceptance of the submittal is required before beginning the work. Re-submittals 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 their schedule.

MATERIAL

All materials shipped to the project site shall be accompanied by test reports certifying that the material conforms to the ASTM standards listed herein. Materials shall be shipped, stored, and handled in a manner consistent with written recommendations of the CIPP system manufacturer to avoid damage. Onsite storage locations shall be as indicated on the Drawings and approved by the Engineer.

Preliner Tube.- The preliner shall be a polyethylene material compatible with the lining system, and shall be utilized where necessary to accommodate infiltration, damaged, or missing pipe.

Felt Liner Tube.- The tube shall consist of one or more layers of absorbent, flexible, non-woven felt material. The tube shall be capable of carrying the specified resin, constructed to be able to withstand installation pressures and curing temperatures, have sufficient strength to bridge missing pipe and stretch to fit irregular pipe sections at all pipe locations, and be compatible with the resin used.

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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The outer tube coating shall consist of an impermeable, flexible membrane that contains the resin and allows for visual inspection and verification of proper resin impregnation (“wet-out”) procedure. The coating shall hold the resin inside the tube without leakage, accommodate installation, and stretch to the size and shape of the existing sewer, and shall not delaminate before, during, or after curing.

The tube shall have a uniform thickness that when compressed at installation pressures will meet, or exceed, the design thickness. The thickness of the tube shall be calculated based upon the resin system values given in this Detailed Specification.

The CIPP wall thickness shall be calculated from the equation in ASTM F1216, Appendix X1, based upon the parameters given in this Detailed Specification. The minimum CIPP wall thickness shall be not less than the value calculated by that equation. Any layers of tube that are not saturated with resin and capable of being cured shall not be deemed to have been included in the calculated CIPP wall thickness.

The tube shall be fabricated to a size and length that when installed will fit sufficiently tight within the existing pipe so as to not leak at manholes, at service connections, or through the wall of the installed pipe. The tube shall be properly sized to the diameter of the existing pipe and the length to be rehabilitated and be able to stretch to fit irregular pipe sections and negotiate bends. The Contractor shall determine the minimum tube length necessary to effectively span the designated run between manholes. The Contractor shall verify the lengths in the field prior to impregnation of the tube with resin, to ensure that the tube will have sufficient length to extend the entire length of the run. The Contractor shall also measure the inside diameter of the existing pipelines in the field prior to ordering liner so the liner can be installed in a tight-fitted condition. Allowance for circumferential stretching of the tube during insertion shall be made as per manufacturer's recommendations. Overlapped layers of felt in the longitudinal seam that cause lumps in the final product shall not be utilized.

The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.

The wall color of the interior pipe surface of the CIPP after installation shall be a light reflective color so that a clear detail examination with closed circuit television inspection equipment may be made. The hue shall be dark enough to distinguish a contrast between the fully resin saturated felt fabric and dry or resin lean areas.

Seams in the tube shall be stronger than the unseamed felt and shall meet the requirements of ASTM D5813. Where the length of the tube to be installed requires joining along the circumference of the tube, the sewn joint shall not be perpendicular to the long axis but spirally formed and sewn.

The outside of the tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 feet. Such markings shall include the manufacturers name or identifying symbol. The tubes must be manufactured in the USA.

The length of the tube shall be that deemed necessary by the Contractor to effectively carry out the insertion and seal the pipe at the inlet and outlet points, plus that amount required to run-in and run-out for the

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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installation process. The Contractor shall verify the lengths in the field before cutting the tube to length. Lengths of sewer shall be lined over one or more access points as shown on the Drawings.

Resin.- Resin shall be a polyester, enhanced polyester, vinyl ester, or epoxy system including all required catalysts, initiators, or hardeners that when cured within the tube creates a composite that satisfies the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the design of the CIPP for this project. Resin selected shall be resistant to the chemical composition of the sewage and comply with the structural requirements of this specification.

Resin selected shall be Styrene-Free.

The resin shall be thermosetting resin that is compatible with the lining process and shall meet the requirements of ASTM F1216 except as otherwise specified in this Detailed Specification. The resin shall be able to cure in water with an initiation temperature for cure as required by the liner manufacturer, but not greater than maximum temperatures required under ASTM F1216. The cured resin/felt system shall be suitable for the expected conditions within the existing sanitary sewer.

The Contractor is responsible for choosing a resin system that is capable of meeting the physical and cured-in-place properties and performance requirements as detailed in this specification.

Field Cured Line.- The completed liner as installed and fully cured-in-place shall meet the minimum physical properties for short term flexural modulus and flexural strength as shown in Table 1.

Remote Temperature Sensing Devices.- Fiber optic probes shall be installed to monitor the average temperature along the entire length of the tube as it cures. Devices shall be provided by VeriCure or an Engineer-approved equal.

CONSTRUCTION METHODS

The Contractor shall carry out their operations in strict accordance with all Occupational Safety and Health Administration (OSHA), Michigan Occupational Safety and Health Administration (MIOSHA), and manufacturer's safety requirements. The Contractor shall be solely responsible for safety during the performance of all work. The Contractor shall not enter into any sewer segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by the Contractor and/or the City. The Contractor shall coordinate their work with local fire, police, and emergency rescue unit.

The Contractor shall be responsible for any damage to public or private property resulting from their sewer lining or televising activities and shall repair or otherwise make whole such damage at no cost to the City.

Cleaning of Pipelines.- Prior to rehabilitation of any sewer, it shall be the responsibility of the Contractor to remove all internal deposits from the pipeline. This shall include dirt, debris, mud, bricks, grease or oils, mineral deposits, root masses, pieces of broken pipe, etc. Cleaning of sewer shall be in accordance with the City of Ann Arbor Public Services Area Standard Specifications, Detailed Specification "Cleaning and Televising Sewer, Manholes, and Chambers," and as directed by the Engineer.

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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Pre-Rehabilitation Inspection of Pipelines.- Inspection of pipelines shall be performed after the pipe has been cleaned, by experienced personnel trained in locating breaks, obstacles, and service connections by closed circuit television.

The interior of the pipeline shall be carefully inspected to determine the location and extent of any structural failures. The location of any conditions which may prevent proper installation of lining materials into the pipelines shall be noted so these conditions can be corrected as specified in this Detailed Specification and Detailed Specification "Cleaning and Televising Sewer, Manholes, and Chambers".

Diverting/Bypassing Flow.- The Contractor shall provide for the transfer of main line and/or lateral flow around the section or sections of pipe that are to be cleaned, televised, and rehabilitated. The work shall consist of diverting, pumping, and bypassing flow in the existing sewers in accordance with Detailed Specification "Sewer Flow Control" and as directed by the Engineer.

Line Obstructions.- It shall be the responsibility of the Contractor to clear the line of obstructions such as solids, dropped joints, root masses, protruding branch connections, or broken pipe that will prevent proper insertion of the liner in accordance with Detailed Specification "Cleaning and Televising Sewer, Manholes, and Chambers" and as directed by the Engineer.

Installation of Resin Impregnated Tube.- The Contractor shall designate a location where the uncured resin in the original containers and the unimpregnated liner will be resin impregnated prior to installation. The Contractor shall allow the Engineer to inspect the materials and procedure. A resin and catalyst system compatible with the requirements of this Detailed Specification shall be used. The quantities of the liquid thermosetting materials shall be provided in accordance with manufacturer's standards to provide the cured liner properties specified. Sufficient resin shall be used to fill the volume of air voids in the liner with additional allowance for polymerization, shrinkage, and loss of resin through cracks and irregularities in host pipe wall. The Contractor shall ensure the proper amount of resin is uniformly distributed throughout the entire length of the tube.

The wetting out, installation, and curing of the resin impregnated tube shall be in accordance with ASTM F1216 and per manufacturer's specifications. The tube shall be inserted through existing opening by means of an inversion process, the application of a hydrostatic head sufficient to fully extend the liner to the next designated access point, or other means as approved by the Engineer.

The process will be adjusted as necessary to ensure a complete lining without over-stressing or tearing the lining, with sufficient pressure to hold the liner snug to the pipe wall, and to produce dimples at side connections and flared ends at the entrance and exit access points. The use of a lubricant is recommended and if used, such lubricant shall be compatible with the rehabilitation process.

The manufacturer's standards shall be closely followed during the elevated curing temperature so as not to over-stress the felt fiber and cause damage or failure of the liner prior to cure.

Curing.- Hot water is required for full length liners. After installation of the resin impregnated liner is completed, the Contractor shall supply a suitable heat source and water recirculation equipment as necessary to cure the liner. The equipment shall be capable of delivering hot water to the far end of the liner through a hose, which has been perforated per manufacturer's recommendations, to uniformly raise

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FOR
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the water temperature in the entire pipe above the temperature required to affect a cure of the resin. This temperature shall be determined by the resin/catalyst system employed.

For quality control during the CIPP lining operation, the Contractor shall utilize remote temperature sensing devices placed between the host pipe and the liner to continuously monitor the liner cure incrementally every 18 inches or less to verify that an exothermic reaction has occurred and that a full cure has taken place along the full length of the CIPP liner. Measuring temperatures at the liner endpoints only will not be permitted. The cure information must be taken from the bottom third of the pipe liner. Cure parameter information shall be provided by the resin manufacturer.

Liner and/or host pipe interface temperature shall be monitored and logged during curing of the liner. The monitoring system must have the ability to be remotely viewed live by the Engineer. Data collected shall be provided to the Engineer in Excel spreadsheet and graphical viewer formats at the same time as the post-lining inspection videos are provided.

Initial cure shall be deemed to be completed when the remote sensing devices reflect that the cure temperature, as recommended by the resin/catalyst system manufacturer, have been achieved. The cure period shall be of a duration recommended by the resin manufacturer, as modified for site-specific conditions, during which time the recirculation of the water and cycling of the heat exchanger to maintain the temperature in the liner continues.

Cool-Down.-The Contractor shall cool the CIPP in accordance with the CIPP manufacturer's recommendations, to a temperature below 100°F before relieving the static head in the liner. Temperatures and curing data shall be monitored and recorded by the Contractor throughout the installation process to ensure that each phase of the process is achieved in accordance with the CIPP manufacturer's recommendations. Cool-down may be accomplished by the introduction of cool water into the liner to replace water being drained from the downstream end. Care shall be taken in the release of the static head such that a vacuum will not be developed that could damage the newly installed liner. The cooled water shall be released to the existing sanitary sewer at a rate that is approved by the Engineer and the City of Ann Arbor's Waste Water Treatment Plant (WWTP) superintendent.

Finish.- The cured liner shall be continuous over the entire length of an insertion run and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes, and delamination. The lining shall be impervious and free of any leakage.

Any defects which will affect the integrity of the liner, or any deficiencies in required strengths or thicknesses, shall be repaired or removed and replaced at the Contractor's expense, in a manner acceptable to the Engineer.

Sealing Liner at the Ends.- A seal, consisting of a hydrophilic sealing gasket compatible with the installed CIPP, shall be installed at each manhole/pipe wall interface. The seal shall be a seamless molded tubular design that swells in the presence of water. The seal shall be secured in place by a retaining ring.

Post-Rehabilitation Television Inspection.- The completed sewer shall be television inspected and color videotaped, by the Contractor, in accordance with Detailed Specification "Cleaning and Televising Sewer and Manholes" No payment shall be provided for post rehabilitation television inspection.

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**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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Acceptance Tests.- The Engineer shall perform Acceptance Testing in accordance with ASTM F1216 (including appendices) and ASTM D5813.

The Contractor shall prepare plate test samples to be cured with the CIPP operation. The Contractor shall capture and prepare 10 sample specimens of the liner for the Acceptance Testing to be performed by the Engineer for each section of sewer lined in accordance with Section 8 of ASTM F1216 for testing flexural strength and delamination. The Contractor shall prepare the samples for shipment to the laboratory, including cutting samples to proper length and width as described in the applicable ASTM test procedures. Samples shall be labeled for date, diameter, section of sewer, and delivered to the Engineer for testing. The cost of the sample postage, shipping, and testing will be paid for by the City. When tested, each sample shall meet the physical properties for flexural modulus and flexural strength used in the design calculations.

Air testing on isolated sections of sewer (minimum of 2 to 3 feet in length) shall be required if post-rehabilitation inspection indicates leaks in the liner. Air testing shall be performed on longer sections or multiple sections of sewer as required to identify the location(s) and full extent of defects. Such testing shall be performed by the Contractor at no additional expense to the project.

CIPP wall thickness shall be verified in accordance with Section 8.6 of ASTM F1216 and using test methods consistent with Section 8.1.2 of ASTM D5813.

The Engineer will have all flexural and delamination testing performed by an independent, ASTM-certified testing laboratory. The testing laboratory shall submit all test results directly back to the Engineer within 14 calendar days. The Engineer will provide a written copy of the test results to the Contractor within 3 business days of receiving them from the laboratory. The Contractor may elect to restore flow in the mainline sanitary sewer during this period of time. However, if the test results indicate that the liner fails to meet the project requirements and that remedial work is required to be performed, the Contractor shall perform any required cleaning in order to allow the remedial work to be performed at no additional cost to the project.

Should the test results indicate that the liner fails to meet the required physical properties as specified herein, the work shall be rejected. The Contractor shall have up to 10 calendar days to propose a repair/replacement plan consistent with the requirements of Section d.15 of this Detailed Specification for the Engineer's review and acceptance.

While repair/replacement work is performed, the Contractor shall continue to be responsible for maintaining flows in the mainline and lateral sanitary sewers in accordance with the requirements of the Detailed Specification "Sewer Flow Control." The unit price for the item of work "Sewer Flow Control" shall not be adjusted for any increase in contract time or required work due to the repair or replacement of defective materials or faulty workmanship.

The Contractor shall remove and replace or repair any defects in the installed liner to the satisfaction of the Engineer at no additional cost to the project. Contract time will continue during the period of time from the receipt of failing test results to the completion of the repairs.

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**FOR
CIPP SEWER LINING**

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Clean-Up.- Upon completion of the installation work and after required testing indicates the linings are acceptable, the Contractor shall restore the project area affected by their operation in accordance with Detailed Specification “Project Clean-Up and Restoration, Special.”

Traffic Control.- During the entire rehabilitation process, the Contractor shall provide all necessary barricades, signs, traffic regulators (flaggers), minor traffic devices, etc., to maintain both vehicular and pedestrian traffic in accordance with the Michigan Manual of Uniform Traffic Control Devices, as shown on the Drawings, and in accordance with Detailed Specification “Maintenance of Traffic.”

Warranty.- The materials used for the project shall be certified by the manufacturer for the specified purpose. The Contractor shall warrant the liner material and installation for a period of 2 years. During the Contractor warranty period, any defect which may materially affect the integrity, strength, function, and/or operation of the pipe, shall be repaired at the Contractor’s expense in accordance with procedures described in this Detailed Specification, Section d.15, “Liner Repair/Replacement,” and as recommended by the manufacturer.

The Contractor shall conduct warranty CCTV inspection of sewers which were lined. This work shall be completed at the Contractor’s expense, no sooner than 2 months prior to the expiration of the original warranty period. The televising shall be performed in the presence of the Engineer. Television inspection that is not performed within the presence of the Engineer will not be accepted and shall be performed again at the Contractor’s sole expense. Any areas that do not meet the requirements of this Detailed Specification will be repaired or re-lined at no additional cost to the City.

Liner Repair/Replacement.- The Contractor shall submit their Liner Repair/Replacement Plan and all design calculations to the Engineer for review and acceptance. The plan shall include:

- A. The Contractor shall outline specific repair or replacement procedures for potential defects that may occur in the installed liner, in accordance with recommendations by the liner system manufacturer.
- B. The manufacturer shall provide a detailed step by step repair procedure, resulting in a finished product meeting the estimated life cycle of the component and requirements of these Detailed Specifications. For the purposes of this project, the life-cycle of this rehabilitation shall be considered to be 50 years.
- C. Should a potential issue be un-repairable, in the opinion of the Engineer, the Contractor, together with the manufacturer, shall define the best recommended procedure for the total removal and replacement of the system.
- D. The Contractor shall receive no additional compensation for the repair or replacement of systems deemed non-conforming to the requirements of these Contract Documents and unacceptable by the City.

**DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

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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 item:

<u>Pay Item</u>	<u>Pay Unit</u>
CIPP Line __-inch Dia. Sanitary Sewer.....	Lineal Foot
Preline __-inch Dia. Sanitary Sewer.....	Lineal Foot

Rehabilitation of sanitary sewer will be paid for at the contract unit price per lineal foot. The contract unit price paid shall be payment in full for all labor, material, and equipment required for rehabilitation of existing sanitary sewers by insertion of a CIPP liner and shall include, but is not limited to; furnishing, transporting, preparing, and installing the structural pipe liner and CIPP end seals; furnishing and installing remote temperature sensing devices used during the liner curing process; reconnecting existing sewers or leads; performing any needed liner repairs; gaining access to work site; removal and replacement of site improvements; post-lining sewer televising; all required warranty work; and all other work and items necessary to complete the work as detailed within this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #228 - REMOVE CONCRETE CURB OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #229 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

1 of 3

DESCRIPTION

This work shall consist of removing concrete curb, gutter, curb and gutter, integral curb, concrete pavement, sidewalk, sidewalk ramps, drive openings, and drive approach pavements as shown on the plans, as detailed in the Specifications, and as directed by the Engineer, in accordance with Section 204 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as specified herein, and as directed by the Engineer.

CONSTRUCTION METHODS

Curb, gutter, curb and gutter, sidewalk, sidewalk ramps, drive openings, and drives shall be replaced within 24 hours of their removal.

The Contractor shall remove concrete curb, gutter, curb & gutter, integral curb, pavement, sidewalk, sidewalk ramps, drive openings, and drives, all regardless of the type and thickness, and all as shown on the Plans, as detailed in the Specifications, and as directed by the Engineer.

Prior to the start of removals, the Engineer and Contractor together shall field measure all removals. The Engineer shall approve of all removal limits prior to any removals being performed by the Contractor.

The Contractor shall perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide MDOT Type M drive openings, and including those necessary to provide for the partial removal of existing drive approaches as shown on the Plans, as directed by the Engineer, and as marked for removal. The Contractor shall cut steel reinforcement bars as directed by the Engineer at all areas of removal. All saw cutting shall be performed under wet conditions to prevent excessive airborne dust. All resulting slurry and debris shall be cleaned up to the satisfaction of the Engineer.

The Contractor shall remove, salvage, and deliver to any location within the City limits, or to any City-owned property, and neatly stack/stockpile all bricks, if present, as directed by the Engineer.

The Contractor shall excavate, cut, remove stumps, remove brush, grade, and trim as needed and as directed, and shall import, furnish, fill, place, grade, and compact granular material as needed to: construct new concrete items; to repair or replace existing concrete items; to relocate existing concrete items to their new specified/directed elevations/locations, including all necessary grading at elevation changes of curb and gutter, sidewalks and ramps; and at locations where existing concrete items are to be removed and turf is to be established in its place.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

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**DETAILED SPECIFICATION
FOR
ITEM #228 - REMOVE CONCRETE CURB, GUTTER, OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #229 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

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The Contractor shall re-shape, re-grade, and re-compact the existing roadbed materials to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer.

The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as directed by the Engineer. The use of each specific piece of equipment is subject to the approval of the Engineer.

The Engineer may direct aggregate base materials to be either removed from or added to the job-site, to properly complete the work. Where the Engineer directs the addition of such materials, they shall be paid for as either the Item of Work: “Aggregate Base”. Where the Engineer directs such materials to be removed, they will not be paid for separately, but shall be included in the appropriate concrete removal item.

Concrete pavement removals shall be performed in accordance with the MDOT 2012 Standard Specifications, Section 603.03.B.1.b, Removing Pavement (Repair), except as modified herein. The item of work “Remove Concrete Pavement (Repair) - Any Thickness” refers to the removal of existing concrete pavement and concrete pavement base within the width of the street (i.e. edge-of-metal to edge-of-metal). Concrete removal outside the edge-of-metal shall be paid for as the appropriate item of either “Remove Concrete Curb or Curb & Gutter - Any Type, Modified”, or “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”.

Where existing concrete curb or curb & gutter is to be replaced on a street with a concrete (or brick) base, the Engineer may direct the Contractor to remove a 1-to-2-foot wide, full-depth section of pavement and pavement base from immediately in front of the curb & gutter. As part of this pavement/base removal, the Contractor shall perform additional (double) full-depth saw-cutting along the entire removal limits, and shall take sufficient care so as not to damage and/or disturb any adjacent pavement, pavement base, and/or any other site feature, all as directed by the Engineer. The removals shall be to a sufficient width and depth to allow for the placement and removal of the curb & gutter formwork. After the removal of the formwork, the Contractor shall replace the concrete base to its original thickness and elevation(s).

The Contractor shall remove composite pavement (HMA pavement overlaid on concrete/brick pavement or concrete/brick pavement base) of any thickness(es) as directed by the Engineer. This work shall be paid for as “Remove Concrete Pavement (Repair) - Any Thickness”. The work of removing HMA pavement overlays where concrete/brick pavement or concrete/ brick pavement base is to be removed will not be paid for separately.

Excavated/removal areas shall be adequately protected with barricades or fencing at all times.

Removed or excavated materials which are not incorporated into the work shall become the property of the Contractor and shall be immediately removed and properly disposed of off-site. Removed or excavated materials may not be stockpiled overnight on, or adjacent to, the site.

Subbase or subgrade removed without authorization by the Engineer shall be replaced and compacted by the Contractor at the Contractor's expense, with materials specified by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEM #228 - REMOVE CONCRETE CURB, GUTTER, OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #229 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

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MEASUREMENT AND PAYMENT

Sidewalk ramp removal shall be measured and paid for as “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”.

Integral curb and gutter that is removed as part of “Remove Concrete Pavement (Repair)” shall be measured and paid for by the square yard, along with the pavement removal quantity.

All sawcutting required for removals shall be included in the appropriate item of work, and will not be paid for separately. Payment for saw cutting to create or modify Type M openings and to allow for the partial removal of existing drives shall be included in the price of the item of work, “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”, and will not be paid for separately.

Concrete removal items shall be field measured and paid for at the Contract Unit Prices for their respective Contract (Pay) Items as follows:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Remove Concrete Curb or Curb & Gutter - Any Type, Modified	Lineal Foot
Remove Concrete Sidewalk, Ramp and Drives - Any Thickness , Modified	Square Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #230 – AGGREGATE BASE**

1 of 1

DESCRIPTION

This work consists constructing an aggregate base course on a surface approved by the Engineer. Work will be performed in accordance with Section 302 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Aggregate Base material will be Dense-Graded Aggregate 21AA in accordance with that specified in Section 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Aggregate Base will be constructed in accordance with Section 302.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

PAY UNIT

Aggregate Base

Ton

Aggregate Base will be measured by the unit ton in accordance with Section 302.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per ton. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
ITEM #231 – HAND PATCHING**

1 of 1

DESCRIPTION

This work consists of filling holes, depressions, joints, cracks, voids, and opens cut areas in HMA pavements. Work will be performed in accordance with Section 501 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Materials will be in accordance with those specified in Section 501 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

CONSTRUCTION METHODS

Hand Patching will be constructed in accordance with Section 501 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

PAY UNIT

Hand Patching

Ton

Hand Patching will be measured by the unit ton and will be paid for at the unit price per ton. The unit price for this contract item includes all labor, material, and equipment costs required to place the HMA, by hand or other methods, and compact the material.

**DETAILED SPECIFICATION
FOR
ITEM #232 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #233 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #234 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, MODIFIED
ITEM #235 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #236 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

1 of 5

DESCRIPTION

This work shall consist of constructing concrete items including curb, gutter, curb and gutter, sidewalks, drive approaches, and drive openings, all of any type and/or dimensions, all of either regular, fiber mesh reinforced, and/or high-early concrete, in accordance with Sections 801, 802, and 803 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as specified herein, as shown on the Plans, as described in this Detailed Specification, and as directed by the Engineer.

The Contractor is responsible to construct all sidewalks, sidewalk ramps, curbs, and all other concrete items within ADAAG compliance. All sidewalks and curb ramps must be constructed in accordance with MDOT Standard Plan R-28-H or version of standard plan/detail in place at time of the bid letting if different.

In addition, all concrete items of work shall comply with the Detailed Specifications for Concrete Durability and Concrete Placement and Protection.

MATERIALS

Concrete mixtures shall be as follows (or as directed by the Engineer), and concrete materials shall meet the requirements specified in the referenced sections of the MDOT Standard Specifications for Construction:

<u>Item Description</u>	<u>Concrete Mixture</u>	<u>MDOT Section</u>
Concrete Curb or Curb & Gutter – Any Type	P1, S2	601, 701
4" Concrete Sidewalk, Modified	P1, P2, S2, S3	601, 701
6" Concrete Sidewalk, Ramp, Drive Approach, Modified	P1, P2, S2, S3	601, 701
6" Concrete Sidewalk, Ramp, Drive Approach, High-Early	P-NC	601
Concrete Type M Drive Opening, High-Early	P-NC	601

CONSTRUCTION METHODS

General

Curb, gutter, curb and gutter, sidewalk, sidewalk ramps, drive openings, and drives shall be replaced the same day they are removed.

Concrete items, including sidewalk, non-integral curb/gutter, drives, and structure adjustments shall be completed prior to the placement of pavement.

All subgrade work shall be completed prior to placing concrete items, unless directed or approved by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEM #232 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #233 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #234 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, MODIFIED
ITEM #235 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #236 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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The subbase shall be trimmed to final elevation before placing curb. Curb shall not be placed on a pedestal or mound.

The Contractor shall excavate, cut, remove stumps, remove brush, remove pavement, grade, and trim as needed and as directed, and shall import, furnish, fill, place, grade, and compact Class II granular material and 21AA Aggregate material as needed to: construct new concrete items; to repair or replace existing concrete items; to relocate existing concrete items to their new specified/directed elevations/locations, including all necessary grading at elevation changes of curb and gutter, sidewalks and ramps; and at locations where existing concrete items are to be removed and turf is to be established in its place.

At locations where the subgrade, subbase or base becomes either disturbed, saturated or otherwise damaged, and where directed by the Engineer, the Contractor shall remove a minimum 6-inch thick layer of the subgrade, subbase or base, and replace it with approved 21AA Aggregate material, compacted in place.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots.

The Contractor is responsible for any damage to concrete items, including but not limited to vandalism; vehicular, pedestrian and/or miscellaneous structural damage; surface texture damage; and rain damage.

The Contractor shall maintain on-site at all times, a sufficient quantity of adequate materials to protect concrete items. The Engineer may suspend or defer concrete placement if rain protection is not available. The Contractor shall not be entitled to any additional compensation due to work suspension or deferral resulting from a lack of adequate rain protection.

The Contractor shall perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide Type M drive openings, and including those necessary to provide for the partial removal of existing drive approaches, as shown on the Plans, as directed by the Engineer, and as marked for removal.

The subbase and adjacent concrete shall be sufficiently wet-down with water prior to placing concrete, to prevent water loss from the new concrete, and to form a better bond between old and new concrete. If a cold-joint becomes necessary, the existing concrete surface(s) shall be cleaned with compressed air to expose the aggregate in the concrete.

Where it is necessary to remove existing pavement to provide space for concrete formwork, a sufficient amount of the existing pavement shall be removed to allow for the use of a vibratory plate compactor in front of the curb.

Where concrete items are placed in areas adjacent to existing pavement that is beyond the general resurfacing (pavement removal and/or milling) limits, the adjacent pavement area shall be backfilled and permanently patched within 48-hours of the removal of concrete formwork. The backfill material shall be

**DETAILED SPECIFICATION
FOR
ITEM #232 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #233 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #234 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, MODIFIED
ITEM #235 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #236 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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MDOT 21AA aggregate compacted in place to 95%, up to the elevation of the proposed bottom of pavement. The pavement patching material(s) shall be as specified and as directed by the Engineer.

Where concrete items are placed adjacent to existing pavement that is within areas scheduled for subsequent pavement removal and/or milling, the adjacent pavement area shall, within 48-hours of the removal of concrete formwork, be backfilled with MDOT 21AA aggregate compacted in place to 95% up to the elevation of the bottom of the adjacent pavement.

Prior to compacting backfill in front of curb and gutter, the back of curb shall be backfilled with approved material and compacted by mechanical means to 95%.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

Restoration

The Contractor shall restore all disturbed areas to better than or equal to their original condition within two calendar days from the date of concrete placement. This includes the placement and compaction of 2.5 inches of topsoil, followed by the placement of grass seed, followed by the placement of 0.5 inches of topsoil, at all turf restoration locations, and at locations where concrete items are removed and turf is to be established. Restoration shall also include the replacement of any brickwork, decorative stone, or other adjacent materials. All restoration work and materials shall be in accordance with the City of Ann Arbor Standard Specifications for Construction.

Contraction Joints in Sidewalk

Contraction joints shall be placed at 5-foot intervals and may be tooled or sawed. The method of forming joints and spacing shall be approved by the Engineer prior to construction.

Expansion Joints in Sidewalks

$\frac{3}{4}$ -inch wide expansion joints shall be placed through concrete sidewalks in line with the extension of all property lines, at all expansion joints in the abutting curb, gutter, and combination curb and gutter, and as directed by the Engineer. Transverse expansion joints shall be placed through the sidewalks at uniform intervals of not more than 300-feet.

$\frac{1}{2}$ -inch wide expansion joints shall be placed between the sidewalk and back of abutting curb or gutter, at the juncture of two sidewalks, between the sidewalk and buildings and other rigid structures, and as directed by the Engineer.

Expansion Joints in Curb and Gutter

$\frac{3}{4}$ -inch wide expansion joints shall be placed at all street returns, at all expansion joints in an abutting pavement, at each side of all driveways (at radius points), elsewhere at 300-foot maximum intervals, and as directed by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEM #232 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #233 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #234 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, MODIFIED
ITEM #235 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #236 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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Expansion joint material shall extend to the full depth of the joint. After installation, the top shall not be above the concrete nor be more than ½-inch below it. No reinforcing steel shall extend through expansion joints.

Plane of Weakness Joints in Curb and Gutter

Intermediate plane of weakness joints shall be placed to divide the structure into uniform sections, normally 10-feet in length, with a minimum being 8-feet in length, and shall be placed opposite all plane of weakness joints in the abutting concrete base course.

Plane of weakness joints shall be formed by narrow divider plates, which shall extend 3-inches into the exposed surfaces of the curb or curb and gutter. Plates shall be notched, if necessary, to permit the steel reinforcement to be continuous through the joint.

MEASUREMENT AND PAYMENT

The work of furnishing and installing mechanical anchors and hook bolts will be measured and paid for by the number of hook bolts installed.

All concrete pavement repair, including that which is installed with integral curb and gutter, will be measured and paid for by the area actually placed in square yards (SY).

No additional compensation will be paid for the construction of concrete items adjacent to existing concrete curb, gutter, pavement, or any other pavement or surface feature(s).

No additional compensation will be paid for the removal of a 6-inch thick layer of the subgrade, subbase or base, and replacement with approved 21AA aggregate material, compacted in place.

A deduction in length for catch basins and inlet castings will be made to measurements of Curb and Gutter.

Curb, gutter, and curb and gutter shall be paid as "Concrete Curb or Curb & Gutter – Any Type, Modified".

Restoration work, including backfilling, compacting, HMA patching adjacent to concrete items, topsoiling and seeding will not be paid for separately, but shall be included in the appropriate associated items of work.

Payment for saw cutting for Type M openings and for partial removal of existing drives shall be included in the price for the item of work, "Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified", and will not be paid for separately.

**DETAILED SPECIFICATION
FOR
ITEM #232 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #233 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #234 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, MODIFIED
ITEM #235 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #236 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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Payment for the removal of HMA pavement and aggregate base to provide space for concrete formwork and vibratory plate compactor shall be included in the price for the item of work, “Remove Concrete Curb or Curb and Gutter - Any Type, Modified”, and will not be paid for separately.

Completed work as measured for these items of work will be paid for at Contract Unit Prices for the following Contract (Pay) Items:

<u>PAY ITEMS</u>	<u>PAY UNIT</u>
Concrete Curb or Curb & Gutter – Any Type	Lineal Foot
4” Concrete Sidewalk, Modified	Square Foot
6” Concrete Sidewalk, Ramp, Drive Approach, Modified	Square Foot
6” Concrete Sidewalk, Ramp, Drive Approach, High Early	Square Foot
Concrete Type M Drive Opening, High Early	Lineal Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

ITEM #237 – INLET FILTER, SPECIAL

1 of 1

DESCRIPTION

This work shall consist of properly installing curb and gutter inlet filters, at locations indicated on the plans, and as directed by the Engineer, maintaining during the entire construction period, and removing at the end of construction. The curb and gutter inlet filters shall be constructed in accordance with the detailed plans.

MEASUREMENT AND PAYMENT

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

Curb and gutter inlet filters will be paid for by the unit "Each". A filter will be paid for when initially installed at a particular structure. Payment will be for installing, maintaining, reinstalling, and, removing the filter at the end of construction and as directed by the Engineer.

PAY ITEM

Inlet Filter, Special

PAY UNIT

Each

**DETAILED SPECIFICATION
FOR
ITEM # 238 – INTERNAL CHIMNEY SEAL**

1 of 2

DESCRIPTION

This specification includes the materials and procedures required for the internal sealing of the frame-chimney joint area of brick, block and precast manholes, as required in the contract documents.

A plural component, urethane internal manhole frame-chimney sealant, as specified herein shall be applied in all assigned manholes within the areas included in this project. If excavation is required to repair, rebuild, or replace a manhole; or if manhole linings or coatings are required, the sealant shall be applied after that work has been completed.

Design Requirements – The manhole frame-chimney sealant shall be designed to prevent leakage of water through the above-described portions of the manhole throughout its design life.

The manhole frame-chimney sealant shall remain flexible and bonded to the inside surfaces of the manhole frame and masonry throughout its design life.

MATERIALS

Manhole frame-chimney sealant consisting Cretex Easy Seal SG or engineer approved equal of a plural component, spray applied, quick setting urethane material conforming to the following requirements:

Viscosity

- a. Part A, 12,000-17,000 cps @ 25C, 20 RPM per ASTM D2393
- b. Part B, 300-510 cps @ 25C, 300 RPM per ASTM D4287

Weight

- a. Weight/Gallon Part A, 8.90-9.20 lb/gal per ASTM D1875
- b. Weight/Gallon Part B, 9.60-9.75 lb/gal per ASTM D1875
- c. Weight/Gallon Mixed, 9.25-9.48 lb/gal per ASTM D1875

Processing

- a. Mix Ratio By Weight, 100:107
- b. Mix Ratio by Volume, 100:100
- c. Cure Schedule, Hours, 4-5 hours @ 25C

Gel Time

Gel Time, Seconds, 0-15 seconds @ 25C, 100 grams per ASTM D3056

Cured Properties

- a. Hardness, Shore A, 95-100 per ASTM D2240
- b. Elongation, 379-473% per ASTM D638 or ASTM D412
- c. Tensile Strength, 2616-3216 psi per ASTM D638 or ASTM D412
- d. Peel Strength, 30.8-46.8 PLI (AL to AL) PER ASTM D1876

CONSTRUCTION METHOD

All concrete and masonry surfaces must be clean. Grease, organic matter, roots must be completely removed.

**DETAILED SPECIFICATION
FOR
ITEM # 238 – INTERNAL CHIMNEY SEAL**

2 of 2

The CONTRACTOR shall have the manufacturer's recommended plural cartridge dispensing tool and all other equipment/tools necessary to prepare the surfaces of the manhole and apply the manhole frame-chimney sealant.

All loose and protruding mortar and brick that would prevent proper application of the Seal, shall be removed and the appropriate areas of the manhole frame, chimney and or cone/corbel cleaned and prepared. All areas to be sealed shall be free of surface contaminants, be dry and free of any excessive voids or defects. If an adequate sealing surface does not exist on the masonry, repair materials such as Cementitious grout shall be used to fill voids and profile the chimney area of the manhole.

“CEMENTITIOUS GROUT Cementitious grout shall be a premixed, non metallic, high strength, non-shrink grout which meets the requirements of ASTM C-191 and C-827 as well as CRD-C-588 and C-621. When mixed to a mortar or "plastic" consistency, it shall have minimum one day and 28 day compressive strength of 6,000 and 9,000 psi, respectively.”

All surface preparation shall be completed in strict accordance with the frame-chimney sealant manufacturer's published instructions.

The internal frame-chimney sealant shall be applied to cover 24 vertical inches inside of the entire circumference of the chimney at a minimum thickness of one hundred (100) mils.

MEASUREMENT AND PAYMENT

This item shall be paid at the unit price bid per manhole and shall include the cost of furnishing and applying the frame-chimney sealant material along with the surface preparation work needed to facilitate proper application.

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>PAY ITEM</u>	<u>PAY UNIT</u>
Internal Chimney Seal	Ea.

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specificatio

**DETAILED SPECIFICATION
FOR
ITEM # 239 – RECONSTRUCT FLOW CHANNEL**

1 of 2

DESCRIPTION

This work shall consist of reconstructing flow channel in accordance to what was described in Section 403 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, and as specified herein.

MATERIALS

Manhole bases and flow channel shall be formed of QUIKRETE Fast Setting

Concrete Mix PRODUCT NO.1004-50 or Engineer approved equal. The use of PVC SDR-26 to establish and form the flow channel if and when applicable upon Engineer approval.

METHODS OF CONSTRUCTION

All concrete and masonry surfaces must be clean. Grease, organic matter, loose bricks, mortar, unsound concrete, roots and other materials must be completely removed.

Thoroughly clean existing flow channel and remove any accumulated sediment, debris, and broken or loose concrete. Properly dispose of all materials removed from the flow channel.

Where the process requires interruption of flow, the Contractor shall provide all necessary diversion or bypass pumping equipment to handle the flow for the duration of the flow channel rehabilitation, including curing times where applicable.

Form and place the concrete mix, meeting City of Ann Arbor Materials Standards, to create new flow channel up to the springline of the flow channel.

Install concrete flow channel up to springline of pipe with $\frac{3}{4}$ " to 1" gap at pipe ends provided to maintain joint flexibility.

Changes in direction of the sewer and entering branch or branches shall be laid out in smooth curves of the longest possible radius which is targeted to the centerlines of adjoining pipelines. Regardless of differences in entrance and exit elevations, flow channels for all pipes are to be formed to present a smooth transition of flow and shall be subject to the approval of the ENGINEER.

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

The flow channel and surface surrounding it, shall be reformed and finished to provide flow channels. All such work shall be done with the proper tools and by careful workmen competent to do such work.

All necessary adjustments required to accommodate encountered field conditions for reconstructed

**DETAILED SPECIFICATION
FOR
ITEM # 239 – RECONSTRUCT FLOW CHANNEL**

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flow channel including all necessary dewatering shall be included in the cost of the flow channel reconstruction and will not be paid for separately.

MEASUREMENT AND PAYMENT

The completed work as measured shall be paid at the contract unit price for the following contract items (pay items):

PAY ITEM

PAY UNIT

Reconstruct flow channel

Ea

Payment for this item of work shall include all labor, materials and equipment needed to accomplish the work, regardless of depth or type of structure.

**DETAILED SPECIFICATION
FOR
ITEM #240 - MANHOLE CEMENTITIOUS LINER**

1 of 3

DESCRIPTION

Sanitary sewer manhole cementitious liner with spray applied or centrifugally cast light-weight structural reinforced concrete.

The Cementitious Liner shall be applied on the manhole base, bench, walls, corbel/cone, and chimney of brick, block, or precast manholes.

INSTALLER EXPERIENCE AND QUALIFICATIONS

Contractor must demonstrate a minimum of 3-years of recent experience.

SUBMITTALS

Submit to the Owner for review and acceptance at least 14-days prior to starting manhole cementation for the following:

- Manufacturers' Certificate of Compliance certifying compliance with the applicable Specifications and Standards. The certifications shall list all materials furnished under this Section.
- Certified copies of factory tests required by the applicable Standards, the Manufacturer, and this Section.
- Manufacturer's handling, storage, and installation instructions and procedures.

MATERIALS

- The materials used shall be designed, manufactured, and intended for sewer manhole rehabilitation and the specific application in which they are used.
-
- The materials shall have a proven history of performance in sewer manhole rehabilitation. The materials shall be delivered to the job site in original unopened packages clearly labeled with the manufacturer's identification and printed instructions.
- All materials shall be stored and handled in accordance with recommendations of the manufacturer.
- All materials shall be mixed and applied in accordance with the manufacturer's written instructions.
- The material applied to the surface of the manhole shall be a cementitious blend
- of calcium aluminate cement and manufactured calcium aluminate aggregates
- for constructing a liner that is impervious to the flow of water, is resistant to
- sulfide attack, and restores structural integrity to existing manhole walls.
- A monolithic liner shall be formed which covers all interior manhole surfaces and
- shall have the following minimum requirements at 28-days:
 - Compressive Strength (ASTM C-579B) 3,000-psi
 - Tensile Strength (ASTM C-496) 300-psi
 - Flexural Strength (ASTM C-293) (Modified) 600-psi
 - Shrinkage (ASTM C-596) 0% at 90% R.H.
 - Bond (ASTM C-321) 130-psi

**DETAILED SPECIFICATION
FOR
ITEM #240 - MANHOLE CEMENTITIOUS LINER**

2 of 3

PREPARATORY PROCEDURES

Contractor will perform preliminary cleaning of the structure with high-pressure water-blasting at a minimum of 4000psi and 4gpm to obtain the desired concrete surface profile (CSP) of 3 or greater. If the desired CSP is not achieved by high-pressure water-blasting other methods of obtaining the surface profile such as abrasive blasting and acid etching shall be used.

The Contractor shall remove all the existing manhole steps. The metal portion of all steps will be removed to within ½” of the manhole interior wall surface. The remaining protruding metal portion of the step shall be covered with a cementitious material to provide a smooth surface on and around the protrusion for the liner to bond.

All open joints, voids, holes, cracks, and missing bricks larger than 3 inches in diameter or equivalent shall be patched with a cementitious material to provide a smooth surface for the cementitious liner to bond.

All roots, loose, cracked or disintegrated material shall be removed from the area to be patched exposing a sound substrate. The cementitious patch material shall be allowed to cure according to the manufacturer’s specifications before continuing with the cementitious Liner installation process.

Bench shall be sloped so that water will flow back into channel.

When the channel is required to be lined the Contractor shall plug the inlet pipe, inspect for infiltration leaks around the inlet and outlet pipes and in the channel. All leaks present shall be stopped by the use of chemical grout injection and/or by the use of fast-setting cement.

The final prepared surface shall have a concrete surface profile of 3 or greater and have a smooth uniform appearance.

FINISHED LINER

The finished Cementitious Liner shall be continuous over the entire length of the structure from the cover seat to the invert, including the channel. Liner shall be bonded to the structure, as required by design, and in such a way as to not allow any water to flow behind the liner and enter back into the waste stream.

The liner shall be visually inspect from inside the structure for any defects that may affect performance of the liner. All defects shall be fixed to conform with these specifications.

CLEANUP

Clean up the entire project area after the work is completed and all testing accepted. Remove and dispose of all excess material and debris not incorporated into the permanent installation.

**DETAILED SPECIFICATION
FOR
ITEM #240 - MANHOLE CEMENTITIOUS LINER**

3 of 3

MAINTENANCE

Any defects shall be repaired in accordance with the manufacturers' recommendations on an as needed basis.

WARRANTY

Manufacturer and Installer of the Liner system shall provide a 10 year warranty on materials and labor.

MEASUREMENT AND PAYMENT

Cementitious Liner shall be measured as units, complete in place. The completed work as measured shall be paid at the contract unit price for the following contract items (pay items):

PAY ITEM

PAY UNIT

Cementitious Liner

Vf

Payment for this item of work shall include all labor, materials and equipment needed to accomplish the work, regardless of depth or type of structure.

**DETAILED SPECIFICATION
FOR
ITEM #241 – CLEAN-UP & RESTORATION, SPECIAL**

1 of 2

DESCRIPTION

This item of work shall conform to Division IX, Section II, Item No. 891, Clean-Up & Restoration of the Public Services Area Standard Specifications, except as specified herein.

This work shall include the removal of all surplus materials from the site including; but not limited to; tools, dirt, rubbish, construction debris, and excess excavated material. This work shall also include the restoration of all existing lawn areas, road surfaces, culverts, drives, and sidewalks disturbed by the work. This work includes placing topsoil, fertilizer, seeding, and furnishing and installing mulch blankets on all disturbed areas as approved by the Engineer. Mulch blankets are required on all seeded areas.

MATERIALS

The materials shall meet the requirements specified in the MDOT 2020 Standard Specifications as designated, as specified herein, and as approved by the Engineer:

- Seed shall be THM seed mixture as described in Table 8 16-1.
- Fertilizers shall be a Class A. The percentages by weight shall be 12- 12- 12, or as approved by the Engineer.
- Water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances.
- Mulch blankets shall be High Velocity Straw Mulch Blankets as specified in MDOT section 917.

MAINTENANCE AND ACCEPTANCE

It is the responsibility of the Contractor to establish a dense 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 reseeded. Such reseeding shall be at the Contractor's expense and shall continue until a dense lawn is established. The Contractor is responsible for restoring all areas disturbed by his construction.

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 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 by the Engineer for the project, to establish a uniform, weed-free, stand of the specified grasses. Maintenance includes furnishing and installing additional topsoil, and reseeding all as may be required to correct all settlement and erosion until the date of final acceptance.

**DETAILED SPECIFICATION
FOR
ITEM #241 – CLEAN-UP & RESTORATION, SPECIAL**

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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.

Cleanup and Restoration must be performed upon the completion of each sub-phase of work (as described in the Detailed Specification for Project Schedule), and not as one single operation at the completion of the entire project.

MEASUREMENT AND PAYMENT

Measurement and payment for this item of work shall conform to Division IX, Section 2, Item No. 891, Clean-Up & Restoration of the Public Services Area Standard Specifications except as modified herein.

The completed work for "Clean-Up & Restoration, Special" will be paid for on a lump sum (LS) basis. 80% of said lump sum shall be paid upon completion and approval of the site by the Engineer. By May 31st of the year following the completion of the project, the Engineer will inspect the seeded turf to ensure that the end product is well established; weed free, and in a growing and vibrant condition. If the Engineer determines that the restored areas meet the project requirements, the remaining 20% of the lump sum will be paid. If the Engineer determines that the restored areas do not meet the project requirements, the Contractor will continue with any and all measures necessary to meet the project requirements. All costs associated with the remedial measures shall be borne entirely by the Contractor.

Pay Item

Pay Unit

Clean-Up & Restoration, Special

Lump Sum

**DETAILED SPECIFICATION
FOR
CERTIFIED PAYROLL COMPLIANCE AND REPORTING**

1 of 2

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.

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.

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 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.

**DETAILED SPECIFICATION
FOR
CERTIFIED PAYROLL COMPLIANCE AND REPORTING**

2 of 2

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:

PAY ITEM

PAY UNIT

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.

**DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE**

1 of 3

DESCRIPTION

The Contractor shall conform to the requirements of Sections 104.07 and 109.07 of the 2020 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, “Contractor Obligations” and “Final Inspection, Acceptance, and Final Payment,” respectively.

Partial Acceptance.- Upon completion of a portion of the work, the Contractor may request, in writing, partial acceptance of that portion of the work. Within 7 days of the Contractor’s written request, the Engineer will conduct an inspection to determine if the Contractor has satisfactorily completed that portion of the work in accordance with the contract.

Within 7 days of the inspection, the Engineer will provide written notice of either partial acceptance for that portion of the work, or an explanation for rejecting the Contractor’s request for partial acceptance. If the Engineer grants the partial acceptance, the Engineer will designate in writing what portion of the work is partially accepted and the effective date of the partial acceptance.

Should the Engineer consider that the portion of the work is not complete, the Engineer shall notify the Contractor in writing stating the reasons. The Contractor shall complete the work and send a second written notice to Engineer certifying the project, or designated portion of the project, is partially complete. The Engineer and City of Ann Arbor (City) will re-inspect the work.

Partial acceptance will relieve the Contractor of maintenance responsibility and third-party damage liability for the designated portion of the work. By relieving the Contractor of maintenance and third-party damage claims, the City does not relieve the Contractor of responsibility for defective work or damages caused by the Contractor’s operations. The Contractor shall not construe partial acceptance to be final inspection, final acceptance of any part of the work, or waiver of any legal rights specified under Section 107 of the 2020 edition of the MDOT Standard Specifications for Construction.

Delayed Acceptance.- Upon completion of contract work items designated for delayed acceptance, the Contractor must notify the Engineer, in writing, of the completion of the designated work. Within 7 days of the Contractor’s written request, the Engineer will conduct an inspection to determine if the Contractor has satisfactorily completed the designated portion of the work in accordance with the contract. Within 7 days of the inspection, the Engineer will notify the Contractor, in writing, of the date the delayed acceptance period begins.

Delayed acceptance will relieve the Contractor of maintenance responsibility and third-party damage liability for the designated portion of the work. By relieving the Contractor of maintenance and third-party damage claims, the City does not relieve the Contractor of responsibility for defective work or damages caused by the Contractor’s operations. The Contractor shall not construe delayed acceptance to be final inspection, final acceptance of any part of the work, or waiver of any legal rights specified under Section 107 of the 2020 edition of the MDOT Standard Specifications for Construction.

Final Clean-Up.- Unless otherwise required in the Contract Documents, the cost of final clean-up is included in the contact unit price for the related items of work (contract pay items).

Before final acceptance, the Contractor must complete all of the following:

**DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE**

2 of 3

1. Remove the following from the project limits, unless otherwise required in the Contract Documents or directed by the Engineer:
 - A. Unused and/or unneeded materials;
 - B. Temporary aggregates;
 - C. Temporary soil erosion and sedimentation control devices;
 - D. Rubbish;
 - E. Protective fencing;
 - F. Temporary pipe and supports;
 - G. Equipment;
 - H. Temporary traffic control devices; and
 - I. All other temporary construction items, equipment, and debris not specifically listed above.
2. Restore areas occupied during the project in accordance with Detailed Specification “Project Clean-Up and Restoration, Special,” and as determined by the Engineer.
3. Replace or repair damaged features.
4. Provide the Engineer with written certification that all property that was used or damaged during performance of the work, including property outside of the project limits, has been restored in accordance with the Contract Documents, and applicable local, state, and federal requirements.
5. Provide written certification that the project has been inspected in compliance with the Contract Documents, the work has been completed in accordance with the Contract Documents, including applicable testing in the presence of the Engineer.
6. Clean paved areas, including public sidewalks directly adjacent to the site within 5 working days before opening the pavement surface to traffic taking precautions so as not to produce airborne dust when cleaning pavement.
7. Rake clean other surfaces of the grounds.

Final Inspection.- The Engineer will conduct the final inspection within 7 days of receiving the Contractor’s written notification that the work has been completed. The Contractor must attend the final inspection.

**DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE**

3 of 3

Within 7 days of the final inspection, the Engineer will provide written notice to the Contractor of a satisfactory final inspection or will provide a list of specific defects to be remedied in order to achieve a satisfactory final inspection.

Should the Engineer consider the work not complete and ready for final payment, the Engineer shall notify the Contractor in writing, stating the reasons. The Contractor shall take immediate steps to remedy the stated deficiencies and send a second written notice to the Engineer certifying that the work is complete. The Engineer will re-inspect the work.

Should the Engineer be required to perform additional re-inspections because of failure of the work to comply with the original certifications of the Contractor, the Engineer will deduct the cost of the re-inspections from the final amount to be paid to the Contractor.

After achieving satisfactory final inspection, the Contractor is relieved of the duty of maintaining and protecting the project. In addition, the Contractor is relieved of their responsibility for third-party damage claims, and for damage to the work that may occur after satisfactory final inspection.

Final Acceptance.- Within 7 days of satisfactory final inspection and submission of all required project and materials testing documentation by the Contractor, the Engineer will give the Contractor written notification of final acceptance.

The Contractor, without prejudice to the terms of the contract, is liable to the City at any time, both before and after final acceptance, for latent defects, fraud, such gross mistakes as may amount to fraud, or actions affecting the City's rights under any warranty or guarantee.

Final Payment.- The Contractor shall submit a final Application for Payment in accordance with the requirements of the Contract Documents.

Within 30 calendar days after final acceptance, the Engineer will prepare a final estimate of work performed. The Contractor will have 30 calendar days from the issuance of the final estimate to file a claim or objections to the quantities within the final estimate. If no claim or objections are filed within 30 calendar days, the City will process the final estimate for approval and final payment. At that time, the Contractor will be furnished a copy of the approved final estimate.

The final payment will be made when the Contractor has provided the following:

- A. All reports or documents required by the Engineer.
- B. The Consent of Surety for payment of the final estimate.
- C. Signed Contractor's Declaration (see Section 43 of the "General Conditions").
- D. Satisfactory evidence by signed Contractor's Affidavit (see Section 44 of the "General Conditions") that all the indebtedness due to the contract has been fully paid or satisfactorily secured.

The City can recover all overpayments from the Contractor in the final estimate.

**DETAILED SPECIFICATIONS
FOR
GENERAL CONSTRUCTION NOTES**

The following notes pertain to all Plan sheets issued as part of this Contract, and these notes shall be considered part of each Plan sheet or Detailed Information Sheet.

1. All work shall conform to latest revision of the City Standard Specifications.
2. The Contractor shall maintain access to all drives throughout the course of construction. Drives shall never be closed during non-working hours, unless otherwise authorized in writing by the Engineer.
3. The Contractor shall completely restore all existing site features to better than, or equal to, their existing condition.
4. The Contractor shall be aware that there are above-ground and below-ground utilities existing in and on these streets which include, but are not limited to: gas mains and service leads; water mains and service leads; storm sewer mains and service leads; sanitary sewer mains and service leads; telephone poles, wires, cables and conduits; electrical poles, wires, cables and conduits; cable television wires, cables and conduits, and other various utilities. The Contractor shall conduct all of its work so as not to damage or alter in any way, any existing utility, except where specified on the Plans or where directed by the Engineer. The City has videotaped and cleaned all sanitary and storm sewers, including storm sewer inlet leads, and has found all of these facilities to be in good condition, with the exception of those shown on the Plans for repairs or replacement.
5. The Contractor is solely responsible for any delays, damages, costs and/or charges incurred due to and/or by reason of any utility, structure, feature and/or site condition, whether shown on the Plans or not, and the Contractor shall repair and/or replace, at its sole expense, to as good or better condition, any and all utilities, structures, features and/or site conditions which are impacted by reason of the work, or injured by its operations, or injured during the operations of its subcontractors or suppliers.
6. No extra payments or adjustments to unit prices will be made for damages, delays, costs and/or charges due to existing utilities, structures, features and/or site conditions not shown or being incorrectly shown or represented on the Plans.

**DETAILED SPECIFICATION
FOR
DISPOSING OF EXCAVATED MATERIAL**

The Contractor shall dispose of, at the Contractor's expense, all excavated material. Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions."

**DETAILED SPECIFICATION
FOR
PROTECTION OF UTILITIES**

Damages to utilities by the Contractor's operations shall be repaired by the utility owner at the Contractor's expense. Delays to the work due to utility repairs are the sole responsibility of the Contractor.

The Contractor shall keep construction debris out of utilities at all times. The Contractor shall be back charged an amount of \$50.00 per day for each manhole/inlet/utility pipe that contains construction debris caused as a result of the Contractor's (including subcontractors and suppliers) work.

The Contractor is solely responsible for any damages to the utilities or abutting properties due to construction debris.

Certain sanitary and storm sewers within the influence of construction may have been cleaned and videotaped prior to construction. The City may also choose to videotape utility line(s) during or after the work of this Contract to inspect them for damages and/or construction debris. If such inspection shows damage and/or debris, then all costs of such inspection, cleaning, repairs, etc, shall be the Contractor's sole responsibility. If such inspection is negative, the City will be responsible for the costs of such inspection.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions."

**DETAILED SPECIFICATION
FOR
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES**

The Contractor shall furnish, place, maintain and remove soil erosion and sedimentation control measures, including but not limited to, fabric filters at all drainage structures, all in accordance with all applicable City (and other governmental agencies) codes and standards, as directed by the Engineer, as detailed in the Standard Specifications, and as shown on the Plans.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions."

**DETAILED SPECIFICATION
FOR
VACUUM TYPE STREET AND UTILITY STRUCTURE CLEANING EQUIPMENT**

The Contractor shall furnish and operate throughout the construction period, vacuum type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the Engineer, as and when directed by the Engineer for dust control, for dirt/debris control, and for street cleaning immediately prior to, and for street and utility structure cleaning after any and all paving. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item “General Conditions.”

**DETAILED SPECIFICATION
FOR
MATERIALS AND SUPPLIES CERTIFICATIONS**

The following materials and supplies shall be certified by the manufacturer or supplier as having been tested for compliance with the Specifications:

- HMA materials
- Hot-poured Joint Sealants
- Cements, coatings, admixtures and curing materials
- Sands and Aggregates
- Steel and Fabricated metal
- Portland Cement Concrete Mixtures
- Reinforcing Steel for Concrete
- Reinforcing Fibers for Concrete
- Pre-cast Concrete products
- Sanitary Sewer Pipe
- Storm Sewer Pipe
- Water Main Pipe
- Corrugated Metal Pipe
- High Density Polyethylene Pipe
- Timber for retaining walls
- Modular Concrete Block for retaining walls
- Edge Drain and Underdrain Pipe
- Geotextile Filter Fabric and Stabilization Fabric/Grids

The Contractor shall submit all certifications to the Engineer for review and approval a minimum of three business days prior to any scheduled delivery, installation, and/or construction of same.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item “General Conditions.”

ATTACHMENT B
GENERAL DECLARATIONS

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, General Information, 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 _____, 202_.

Bidder's Name

Authorized Signature of Bidder

Official Address

(Print Name of Signer Above)

Telephone Number

Email Address for Award Notice

ATTACHMENT C
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** _____, 202__

(Print) Name _____ Title _____

Company:

Address:

Contact Phone () _____ Fax () _____

Email _____

ATTACHMENT E

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 \$14.82/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 \$16.52/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

Attachment F

CITY OF ANN ARBOR LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2022 - ENDING APRIL 29, 2023

\$14.82 per hour

If the employer provides health care benefits*

\$16.52 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**



ATTACHEMENT G

Vendor Conflict of Interest Disclosure Form
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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:

Conflict of Interest Disclosure*	
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.

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:		
Vendor Name	Vendor Phone Number	
Signature of Vendor Authorized Representative	Date	Printed Name of Vendor Authorized Representative

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, procurement@a2gov.org

ATTACHMENT I

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.

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. Then submit it to the Human Rights Commission by e-mail (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.

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)		
			HOURS WORKED ON PROJECT												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
EMPLOYEE INFORMATION	WORK CLASSIFICATION	Hour Type								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
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.