

CITY OF ANN ARBOR
INVITATION TO BID



Southside Interceptor Sewer Lining Phase V

ITB No. 4633

Due Date: Tuesday, June 30, 2020 at 2:00 PM (Local Time)

Public Services/Engineering

Issued By:

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

TABLE OF CONTENTS

TABLE OF CONTENTS	TC-1
NOTICE OF PRE-BID CONFERENCE	NP-1
INSTRUCTIONS TO BIDDERS.....	IB-1 to 6
INVITATION TO BID.....	ITB-1 to 3
BID FORM.....	BF-1 to 17
CONTRACT.....	C-1 to 4
BOND FORMS.	B-1 to 2
GENERAL CONDITIONS	GC-1 to 18
STANDARD SPECIFICATIONS	SS-1
DETAILED SPECIFICATIONS	DS-1 to 142

ATTACHMENTS

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

NOTICE OF PRE-BID CONFERENCE

A **mandatory** pre-bid conference for this project will be held on **Tuesday, June 9, 2020** at **1:00 PM at the Nichols Arboretum Amphitheater**. The amphitheater is located inside the arboretum between the Dow Prairie and River Landing. Attendees can enter through the Nichols Drive gate and park along the lower service drive. Please note this is an outdoor meeting that will be held rain or shine. **Failure to attend the meeting and sign the ITB No. 4633 sign-in sheet at the pre-bid meeting will automatically disqualify a bidder from submitting a valid bid.** Any bid submitted by a party not attending and signing the roster at the pre-bid meeting will not be opened or considered. Administrative and technical questions regarding this project will be answered at this time. The pre-bid meeting is for information only. Any answers furnished will not be official until verified in writing by the Financial Service Area, Procurement Unit. Answers that change or substantially clarify the bid will be affirmed in an addendum.

INSTRUCTIONS TO BIDDERS

General

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

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

Preparation of Bids

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

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

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

Questions or Clarifications / Designated City Contacts

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

All questions shall be due on or before **Tuesday, June 23, 2020 by 5:00 PM local time** and should be addressed as follows:

Specification/Scope of Work questions emailed to BSlizewski@a2gov.org
Bid Process and Compliance questions emailed to cspencer@a2gov.org

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of **Brian Slizewski** at BSlizewski@a2gov.org after discovery as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

Addenda

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

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

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

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

Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **June 30, 2020 at 2:00 PM (local time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and two (2) Bid copies in a sealed envelope clearly marked: **ITB No. 4633 Southside Interceptor Sewer Lining Phase V.**

Bids must be addressed and delivered to:

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

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

The following forms provided within this ITB Document must be included in submitted bids.

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

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

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

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

Award

The City intends to award a Contract(s) to the lowest responsible Bidder(s). On multi-divisional contracts, separate divisions may be awarded to separate Bidders. The City may also utilize alternatives offered in the Bid Forms, if any, to determine the lowest responsible Bidder on each division, and award multiple divisions to a single Bidder, so that the lowest total cost is achieved for the City. For unit price bids, the Contract will be awarded based upon the unit prices and the lump sum prices stated by the bidder for the work items specified in the bid documents, with

consideration given to any alternates selected by the City. If the City determines that the unit price for any item is materially different for the work item bid than either other bidders or the general market, the City, in its sole discretion, in addition to any other right it may have, may reject the bid as not responsible or non-conforming.

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

Official Documents

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

Bid Security

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

Withdrawal of Bids

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

Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-1, Article III of the Contract. If these time requirements cannot be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

Liquidated Damages

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

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

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

Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance

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

Wage Requirements

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

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

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

For the purposes of this ITB the Construction Type of Heavy will apply.

Conflict Of Interest Disclosure

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

Major Subcontractors

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

Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

Disclosures

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

Bid Protest

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

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

Cost Liability

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

Reservation of Rights

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

Idlefree Ordinance

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

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

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

In addition, generators and other internal combustion engines are covered

(1) Excluding Motor Vehicle engines, no internal combustion engine shall be operated except when it is providing power or electrical energy to equipment or a tool that is actively in use.

Environmental Commitment

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health

and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

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

INVITATION TO BID

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

Ladies and Gentlemen:

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

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

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

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

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

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

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

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

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

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

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

SIGNED THIS _____ DAY OF _____, 202_.

Bidder's Name

Authorized Signature of Bidder

Official Address

(Print Name of Signer Above)

Telephone Number

Email Address for Award Notice

LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

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

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

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

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

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

Authorized Official

_____ **Date** _____, 202_

(Print) Name _____ Title _____

Company: _____

Address: _____

Contact Phone () _____ Fax () _____

Email _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
GENERAL CONTRACT ITEMS					
10	General Conditions, Max \$80,000.00	LS	1	\$ _____	\$ _____
20	Audiovisual Recording	LS	1	\$ _____	\$ _____
30	Construction Notification Signs	EA	4	\$ _____	\$ _____
40	Contingency – Tree, Rem, 6-inch to 18-inch	EA	1	\$ _____	\$ _____
50	Erosion Control, Silt Fence	LF	970	\$ _____	\$ _____
60	Public Notification Signage	EA	4	\$ _____	\$ _____
70	Seeding, Fescue Lawn Mixture	LB	625	\$ _____	\$ _____
80	Minor Traffic Devices, Modified	LS	1	\$ _____	\$ _____
90	Removal and Disposal of Sludge and Debris Material	Ton	120	\$ _____	\$ _____
100	Project Clean-up and Restoration	LS	1	\$ _____	\$ _____
Subtotal General Contract Items (10 - 100)					\$ _____
SEGMENT 1					
1010	Sewer Segment 1 - Protective Fencing	LF	1000	\$ _____	\$ _____
1020	Sewer Segment 1 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	124	\$ _____	\$ _____
1030	Sewer Segment 1 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	124	\$ _____	\$ _____

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File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 1 (continued)					
1040	Sewer Segment 1 MOT – Sign Cover	EA	7	\$ _____	\$ _____
1050	Sewer Segment 1 MOT - Barricade, Type II, High Intensity, Lighted, Furn	EA	1	\$ _____	\$ _____
1060	Sewer Segment 1 MOT - Barricade, Type II, High Intensity, Lighted, Oper	EA	1	\$ _____	\$ _____
1070	Sewer Segment 1 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	2	\$ _____	\$ _____
1080	Sewer Segment 1 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	2	\$ _____	\$ _____
1090	Sewer Segment 1 MOT – Channelizing Device, 42-inch, Furn	EA	75	\$ _____	\$ _____
1100	Sewer Segment 1 MOT – Channelizing Device, 42-inch, Oper	EA	75	\$ _____	\$ _____
1110	Sewer Segment 1 MOT – Lighted Arrow, Type C, Furn	EA	1	\$ _____	\$ _____
1120	Sewer Segment 1 MOT – Lighted Arrow, Type C, Oper	EA	1	\$ _____	\$ _____
1130	Fence – Remove and Replace, 6-ft tall chain link, Segment 1 – Washington Heights	LF	10	\$ _____	\$ _____
1140	Fence – Remove and Replace, 4-ft tall chain link, Segment 1 – Washington Heights	LF	10	\$ _____	\$ _____
1150	Level 2 MACP Inspect Manhole	EA	5	\$ _____	\$ _____
1160	Clean 10-inch Dia. San. Sewer (Segment 1 – Washington Heights, MH 71-69220 to MH 71-69271)	LF	904	\$ _____	\$ _____
1170	PACP Televis 10-inch Dia. San. Sewer (Segment 1 – Washington Heights, MH 71-69220 to MH 71-69271)	LF	904	\$ _____	\$ _____
1180	Contingency Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 1 – Washington Heights	EA	1	\$ _____	\$ _____
1190	Sewer Flow Control (Segment 1 – Washington Heights)	LS	1	\$ _____	\$ _____

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<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 1 (continued)					
Alternate 1 - Styrene Liner					
1310	CIPP Line 10-inch Dia. San. Sewer (Segment 1 – Washington Heights, MH 71-69220 to MH 71-69271,)	LF	904	\$ _____	\$ _____
Subtotal, Segment 1, Alternate 1 (Items 1010 - 1190, and 1310)					\$ _____
Alternate 2 - Non-Styrene Liner					
1410	CIPP Line 10-inch Dia. San. Sewer (Segment 1 – Washington Heights, MH 71-69220 to MH 71-69271,)	LF	904	\$ _____	\$ _____
Subtotal, Segment 1, Alternate 2 (Items 1010 - 1190, and 1410)					\$ _____
 SEGMENTS 2 & 3					
2010	Sewer Segments 2 & 3 – Protective Fencing	LF	832	\$ _____	\$ _____
2020	Sewer Segments 2 & 3 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	287	\$ _____	\$ _____
2030	Sewer Segments 2 & 3 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	287	\$ _____	\$ _____
2040	Sewer Segments 2 & 3 – Sign Cover	EA	24	\$ _____	\$ _____
2050	Sewer Segments 2 & 3 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	7	\$ _____	\$ _____
2060	Sewer Segments 2 & 3 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	7	\$ _____	\$ _____

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<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENTS 2 & 3 (continued)					
2070	Sewer Segments 2 & 3 MOT – Channelizing Device, 42-inch, Furn	EA	51	\$ _____	\$ _____
2080	Sewer Segments 2 & 3 MOT – Channelizing Device, 42-inch, Oper	EA	51	\$ _____	\$ _____
2090	Level 2 MACP Inspect Manhole	EA	14	\$ _____	\$ _____
2100	Clean 8-inch Dia. San. Sewer (Segment 2 – Geddes Heights, MH 71- 69198 to MH 71-70032)	LF	1049	\$ _____	\$ _____
2110	Clean 8-inch Dia. San. Sewer (Segment 2 – Harvard PL., MH 71- 70027 to MH 71-70032)	LF	402	\$ _____	\$ _____
2120	Clean 8-inch Dia. San. Sewer (Segment 3 – W. Ridgeway St., MH 71-70020 to MH 71-70038)	LF	519	\$ _____	\$ _____
2130	Clean 8-inch Dia. San. Sewer (Segment 3 – E. Ridgeway St., MH 71- 70023 to MH 71-70039)	LF	437	\$ _____	\$ _____
2140	PACP Televis 8-inch Dia. San. Sewer (Segment 2 – Geddes Heights, MH 71- 69198 to MH 71-70032)	LF	1049	\$ _____	\$ _____
2150	PACP Televis 8-inch Dia. San. Sewer (Segment 2 – Harvard PL., MH 71- 70027 to MH 71-70032)	LF	402	\$ _____	\$ _____
2160	PACP Televis 8-inch Dia. San. Sewer (Segment 3 – W. Ridgeway St., MH 71-70020 to MH 71-70038)	LF	519	\$ _____	\$ _____
2170	PACP Televis 8-inch Dia. San. Sewer (Segment 3 – E. Ridgeway St., MH 71- 70023 to MH 71-70039)	LF	437	\$ _____	\$ _____
2180	Contingency Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 2 – Geddes Heights	EA	1	\$ _____	\$ _____
2190	Contingency Manhole/Riser Remove and Replace (in Grass, including restoration) Segment 2 – Harvard Place	EA	1	\$ _____	\$ _____
2200	Contingency Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 3 – W. Ridgeway Street	EA	1	\$ _____	\$ _____
2210	Contingency Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 3 – E. Ridgeway Street	EA	1	\$ _____	\$ _____
2220	Sewer Flow Control (Segments 2 & 3 – Geddes Heights, E. & W. Ridgeway St. and Harvard Pl.)	LS	1	\$ _____	\$ _____

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<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENTS 2 & 3 (continued)					
Alternate 1 - Styrene Liner					
2310	CIPP Line 8-inch Dia. San. Sewer (Segment 2 – Geddes Heights, MH 71- 69198 to MH 71-70032)	LF	1049	\$ _____	\$ _____
2320	CIPP Line 8-inch Dia. San. Sewer (Segment 2 – Harvard PL., MH 71- 70027 to MH 71-70032)	LF	402	\$ _____	\$ _____
2330	CIPP Line 8-inch Dia. San. Sewer (Segment 3 – W. Ridgeway St., MH 71-70020 to MH 71-70038)	LF	519	\$ _____	\$ _____
2340	CIPP Line 8-inch Dia. San. Sewer (Segment 3 – E. Ridgeway St., MH 71- 70023 to MH 71-70039)	LF	437	\$ _____	\$ _____
Subtotal, Segments 2 & 3, Alternate 1 (Items 2010 - 2220, and 2310 - 2340)					\$ _____
Alternate 2 - Non-Styrene Liner					
2410	CIPP Line 8-inch Dia. San. Sewer (Segment 2 – Geddes Heights, MH 71- 69198 to MH 71-70032)	LF	1049	\$ _____	\$ _____
2420	CIPP Line 8-inch Dia. San. Sewer (Segment 2 – Harvard PL., MH 71- 70027 to MH 71-70032)	LF	402	\$ _____	\$ _____
2430	CIPP Line 8-inch Dia. San. Sewer (Segment 3 – W. Ridgeway St., MH 71-70020 to MH 71-70038)	LF	519	\$ _____	\$ _____
2440	CIPP Line 8-inch Dia. San. Sewer (Segment 3 – E. Ridgeway St., MH 71- 70023 to MH 71-70039)	LF	437	\$ _____	\$ _____
Subtotal, Segments 2 & 3, Alternate 2 (Items 2010 - 2220, and 2410 - 2440)					\$ _____

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File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 4					
4010	Sewer Segment 4 - Protective Fencing	LF	2404	\$ _____	\$ _____
4020	Sewer Segment 4 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	130	\$ _____	\$ _____
4030	Sewer Segment 4 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	130	\$ _____	\$ _____
4040	Sewer Segment 4 MOT – Sign Cover	EA	15	\$ _____	\$ _____
4050	Sewer Segment 4 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	9	\$ _____	\$ _____
4060	Sewer Segment 4 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	9	\$ _____	\$ _____
4070	Level 2 MACP Inspect Manhole	EA	7	\$ _____	\$ _____
4080	Clean 8-inch Dia. San. Sewer (Segment 4 – Arboretum Main Valley, MH 71-70032 to MH 71-70046)	LF	1387	\$ _____	\$ _____
4090	PACP Televis 8-inch Dia. San. Sewer (Segment 4 – Arboretum Main Valley, MH 71-70032 to MH 71-70046)	LF	1387	\$ _____	\$ _____
4100	Sewer Flow Control (Segment 4 – Arboretum Main Valley)	LS	1	\$ _____	\$ _____
Alternate 1 - Styrene Liner					
4310	CIPP Line 8-inch Dia. San. Sewer (Segment 4 – Arboretum Main Valley, MH 71-70032 to MH 71-70046)	LF	1387	\$ _____	\$ _____
Subtotal, Segment 4, Alternate 1 (Items 4010 - 4100, and 4310)					\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 4 (continued)					
Alternate 2 - Non-Styrene Liner					
4410	CIPP Line 8-inch Dia. San. Sewer (Segment 4 – Arboretum Main Valley, MH 71-70032 to MH 71-70046)	LF	1387	\$ _____	\$ _____
Subtotal, Segment 4, Alternate 2 (Items 4010 - 4100, and 4410)					\$ _____
 SEGMENT 5					
5010	Sewer Segment 5 – Protective Fencing	LF	1091	\$ _____	\$ _____
5020	Sewer Segment 5 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	283	\$ _____	\$ _____
5030	Sewer Segment 5 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	283	\$ _____	\$ _____
5040	Sewer Segment 5 MOT – Sign Cover	EA	23	\$ _____	\$ _____
5050	Sewer Segment 5 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	7	\$ _____	\$ _____
5060	Sewer Segment 5 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	7	\$ _____	\$ _____
5070	Sewer Segment 5 MOT - Channelizing Device, 42-inch, Furn	EA	25	\$ _____	\$ _____
5080	Sewer Segment 5 MOT - Channelizing Device, 42-inch, Oper	EA	25	\$ _____	\$ _____
5090	Fence – Remove and Replace, 6-ft tall chain link, Segment 5 – Regent Dr.	LF	80	\$ _____	\$ _____
5100	Level 2 MACP Inspect Manhole	EA	7	\$ _____	\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 5 Continued					
5110	Clean 8-inch Dia. San. Sewer (Segment 5 – Regent Dr., MH 71-69945 to MH 71-70046)	LF	923	\$ _____	\$ _____
5120	PACP Televis 8-inch Dia. San. Sewer (Segment 5 – Regent Dr., MH 71- 69945 to MH 71-70046)	LF	923	\$ _____	\$ _____
5130	Contingency Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 5 – Regent Drive	EA	1	\$ _____	\$ _____
5140	Sewer Flow Control (Segment 5 – Regent Dr.)	LS	1	\$ _____	\$ _____
5150	Manhole – Adjust to Grade MH 71- 69944	EA	1	\$ _____	\$ _____
5160	Manhole – Drop Connection Removal (2) MH 71-69944	EA	1	\$ _____	\$ _____
Alternate 1 - Styrene Liner					
5310	CIPP Line 8-inch Dia. San. Sewer (Segment 5 – Regent Dr., MH 71-69945 to MH 71-70046)	LF	923	\$ _____	\$ _____
Subtotal, Segment 5, Alternate 1 (Items 5010 - 5160, and 5310)					\$ _____
Alternate 2 - Non-Styrene Liner					
5410	CIPP Line 8-inch Dia. San. Sewer (Segment 5 – Regent Dr., MH 71-69945 to MH 71-70046)	LF	923	\$ _____	\$ _____
Subtotal, Segment 5, Alternate 2 (Items 5010 - 5160, and 5410)					\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 6					
6010	Sewer Segment 6 – Protective Fencing	LF	2075	\$ _____	\$ _____
6020	Sewer Segment 6 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	199	\$ _____	\$ _____
6030	Sewer Segment 6 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	199	\$ _____	\$ _____
6040	Sewer Segment 6 – Sign Cover	EA	17	\$ _____	\$ _____
6050	Sewer Segment 6 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	6	\$ _____	\$ _____
6060	Sewer Segment 6 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	6	\$ _____	\$ _____
6070	Sewer Segment 6 MOT - Channelizing Device, 42-inch, Furn	EA	58	\$ _____	\$ _____
6080	Sewer Segment 6 MOT - Channelizing Device, 42-inch, Oper	EA	58	\$ _____	\$ _____
6090	Aggregate Maintenance Pad, MH 71- 69899	EA	1	\$ _____	\$ _____
6100	Aggregate Maintenance Pad, MH 71- 69900	EA	1	\$ _____	\$ _____
6110	Level 2 MACP Inspect Manhole	EA	4	\$ _____	\$ _____
6120	Clean 8-inch Dia. San. Sewer (Segment 6 – Arboretum, MH 71-70046 to MH 71-69895)	LF	894	\$ _____	\$ _____
6130	PACP Televis 8-inch Dia. San. Sewer (Segment 6 – Arboretum, MH 71-70046 to MH 71-69895)	LF	894	\$ _____	\$ _____
6140	Contingency Sewer Location Services (Between MH 71-70046 and MH 71-69899)	LS	1	\$ _____	\$ _____
6150	Contingency Exploratory Excavation (Between MH 71-70046 and MH 71-69899)	EA	1	\$ _____	\$ _____
6160	Contingency Manhole Installation (Between MH 71-70046 and MH 71-69899)	EA	1	\$ _____	\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENT 6 (continued)					
6170	Contingency Sewer Location Services (Between MH 71-69899 and MH 71-69894)	LS	1	\$ _____	\$ _____
6180	Contingency Exploratory Excavation (Between MH 71-69899 and MH 71-69894)	EA	1	\$ _____	\$ _____
6190	Contingency Manhole Installation (Between MH 71-69899 and MH 71-69894)	EA	1	\$ _____	\$ _____
6200	Contingency Sewer Location Services (Between MH 71-69894 and MH 71-69900)	LS	1	\$ _____	\$ _____
6210	Contingency Exploratory Excavation (Between MH 71-69894 and MH 71-69900)	EA	1	\$ _____	\$ _____
6220	Contingency Manhole Installation (Between MH 71-69894 and MH 71-69900)	EA	1	\$ _____	\$ _____
6230	Sewer Flow Control (Segment 6 – Arboretum)	LS	1	\$ _____	\$ _____
 Alternate 1 - Styrene Liner					
6310	CIPP Line 8-inch Dia. San. Sewer (Segment 6 – Arboretum, MH 71-70046 to MH 71-69895)	LF	894	\$ _____	\$ _____
Subtotal, Segment 6, Alternate 1 (Items 6010 - 6230, and 6310)					\$ _____
 Alternate 2 - Non-Styrene Liner					
6410	CIPP Line 8-inch Dia. San. Sewer (Segment 6 – Arboretum, MH 71-70046 to MH 71-69895)	LF	894	\$ _____	\$ _____
Subtotal, Segment 6, Alternate 2 (Items 6010 - 6230, and 6410)					\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENTS 7 & 8					
7010	Sewer Segments 7 & 8 – Protective Fencing	LF	5088	\$ _____	\$ _____
7020	Sewer Segments 7 & 8 MOT - Sign, Type B, Temp, Prismatic, Furn	SF	155	\$ _____	\$ _____
7030	Sewer Segments 7 & 8 MOT - Sign, Type B, Temp, Prismatic, Oper	SF	155	\$ _____	\$ _____
7040	Sewer Segments 7 & 8 MOT – Sign Cover	EA	15	\$ _____	\$ _____
7050	Sewer Segments 7 & 8 MOT - Barricade, Type III, High Intensity, Lighted, Furn	EA	7	\$ _____	\$ _____
7060	Sewer Segments 7 & 8 MOT - Barricade, Type III, High Intensity, Lighted, Oper	EA	7	\$ _____	\$ _____
7070	Sewer Segments 7 & 8 MOT - Channelizing Device, 42-inch, Furn	EA	19	\$ _____	\$ _____
7080	Sewer Segments 7 & 8 MOT - Channelizing Device, 42-inch, Oper	EA	19	\$ _____	\$ _____
7090	Contingency Aggregate Maintenance Pad, MH 71-69896	EA	1	\$ _____	\$ _____
7100	Level 2 MACP Inspect Manhole	EA	7	\$ _____	\$ _____
7110	Clean Dual 24-inch Dia. San. Sewer (Segment 8 – Interceptor, MH 71-70073 to MH 71-70071 – 173 lf & 170 lf)	LF	343	\$ _____	\$ _____
7120	Clean 36-inch Dia. San. Sewer (Segment 7 – Interceptor, MH 71- 69896 to MH 71-70073)	LF	1740	\$ _____	\$ _____
7130	PACP Televis Dual 24-inch Dia. San. Sewer (Segment 8 – Interceptor, MH 71-70073 to MH 71-70071 – 173 lf & 170 lf)	LF	343	\$ _____	\$ _____
7140	PACP Televis 36-inch Dia. San. Sewer (Segment 7 – Interceptor MH 71-69896 to MH 71-70073)	LF	1740	\$ _____	\$ _____
7150	Manhole/Riser Remove and Replace (in Prairie Area, includes regrading, restoration by others) Segment 7 & 8 – Interceptor	EA	5	\$ _____	\$ _____
7160	Manhole/Riser Remove and Replace (in Pavement, including restoration) Segment 7 & 8 – Interceptor	EA	1	\$ _____	\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENTS 7 & 8 (continued)					
7170	Contingency Sewer Location Services (36-inch Sewer, Fitting 69-57654)	LS	1	\$ _____	\$ _____
7180	Contingency Exploratory Excavation (36-inch Sewer, Fitting 69-57654)	EA	1	\$ _____	\$ _____
7190	Contingency Manhole Installation (36-inch Sewer, Fitting 69-57654)	EA	1	\$ _____	\$ _____
7200	Sewer Flow Control (Segments 7 & 8 – Interceptor)	LS	1	\$ _____	\$ _____
7210	Manhole – Replace Casting MH 71- 70073	EA	1	\$ _____	\$ _____
 Alternate 1 - Styrene Liner					
7310	CIPP Line Dual 24-inch Dia. San. Sewer (Segment 8 – Interceptor, MH 71-70073 to MH 71-70071 – 173 lf & 170 lf)	LF	343	\$ _____	\$ _____
7320	CIPP Line Televis 36-inch Dia. San. Sewer (Segment 7 – Interceptor MH 71-69896 to MH 71-70073)	LF	1740	\$ _____	\$ _____
7330	Pre-line 36-inch Dia. Sa. Sewer	LF	1740	\$ _____	\$ _____
Subtotal, Segments 7 & 8, Alternate 1 (Items 7010 - 7210, and 7310 - 7330)					\$ _____

BID FORM

Section 1 - Schedule of Prices

Project: Southside Interceptor Sewer Lining, Phase V

File # 2017-037 Bid # 4633

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
SEGMENTS 7 & 8 (continued)					
Alternate 2 - Non-Styrene Liner					
7410	CIPP Line Dual 24-inch Dia. San. Sewer (Segment 8 – Interceptor, MH 71-70073 to MH 71-70071 – 173 lf & 170 lf)	LF	343	\$ _____	\$ _____
7420	CIPP Line Televis 36-inch Dia. San. Sewer (Segment 7 – Interceptor MH 71-69896 to MH 71-70073)	LF	1740	\$ _____	\$ _____
7430	Pre-line 36-inch Dia. Sa. Sewer	LF	1740	\$ _____	\$ _____
Subtotal, Segments 7 & 8, Alternate 2 (Items 7010 - 7210, and 7410 - 7430)					\$ _____

BID FORM

Section 2 – Material, Equipment and Environmental Alternates

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

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

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

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
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If the Bidder does not suggest any material or equipment alternate, the Bidder **MUST** complete the following statement:

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

Signature of Authorized Representative of Bidder _____ Date _____

BID FORM

Section 3 - Time Alternate

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

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

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

Signature of Authorized Representative of Bidder _____ Date _____

BID FORM

Section 4 - Major Subcontractors

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

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

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

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

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

Signature of Authorized Representative of Bidder _____ Date _____

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:

CONTRACT

THIS AGREEMENT is made on the _____ day of _____, 202_, 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 Southside Interceptor Sewer Lining Phase V, ITB No. 4633 in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, 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 **[Insert Name of Administering Service Unit]**

Project means **[Insert Title of Bid and Bid Number]**

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

- (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 agreement, 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 agreement.

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

[signatures continue on next page]
By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
City Administrator

By _____
Services Area Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

PERFORMANCE BOND

- (1) _____ (referred to as "Principal"),
and _____, a corporation duly authorized
to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor,
Michigan (referred to as "City"), for \$ _____, the payment of which Principal and Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally,
by this bond.
- (2) The Principal has entered a written Contract with the City dated _____, 202_, for:

_____ 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)

(Name of Principal)
By _____
(Signature)
Its _____
(Title of Office)

Approved as to form:

Name and address of agent:

Stephen K. Postema, City Attorney

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, dated _____, 202_, for _____
_____; 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:

Stephen K. Postema, City Attorney

(Name of Principal)
By _____
(Signature)
Its _____
(Title of Office)

Name and address of agent:

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

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

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

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

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

Section 2 - Order of Completion

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

Section 3 - Familiarity with Work

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

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

Section 4 - Wage Requirements

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

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

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

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

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

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

Section 5 - Non-Discrimination

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

Section 6 - Materials, Appliances, Employees

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

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

assigned.

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

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

Section 8 - Royalties and Patents

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

Section 9 - Permits and Regulations

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

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

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

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

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

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

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

Section 11 - Inspection of Work

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

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

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

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

Section 12 - Superintendence

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

Section 13 - Changes in the Work

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

In giving instructions, the Supervising Professional shall have authority to make minor changes in

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

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

Section 14 - Extension of Time

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

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

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

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

Section 15 - Claims for Extra Cost

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

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

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

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

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

Section 16 - Progress Payments

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

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

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

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

Section 17 - Deductions for Uncorrected Work

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

Section 18 - Correction of Work Before Final Payment

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

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

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

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

Section 19 - Acceptance and Final Payment

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

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

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

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

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

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

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

Section 20 - Suspension of Work

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

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

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

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

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

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

Section 22 - Contractor's Right to Terminate Contract

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

Section 23 - City's Right To Do Work

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

Section 24 - Removal of Equipment and Supplies

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

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

Section 25 - Responsibility for Work and Warranties

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

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

Section 26 - Partial Completion and Acceptance

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

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

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

Section 27 - Payments Withheld Prior to Final Acceptance of Work

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

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

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

Section 28 - Contractor's Insurance

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

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

Required insurance policies include:

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

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

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

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

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

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

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

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

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

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

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

Section 30 - Damage Claims

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

Section 31 - Refusal to Obey Instructions

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

Section 32 - Assignment

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

Section 33 - Rights of Various Interests

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

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

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

Section 39 - Cleaning Up

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

Section 40 - Salvage

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

Section 41 - Night, Saturday or Sunday Work

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

Section 42 - Sales Taxes

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

Section 43

CONTRACTOR'S DECLARATION

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

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

Contractor

Date

By _____
(Signature)

Its _____
(Title of Office)

Past due invoices, if any, are listed below.

Section 44

CONTRACTOR'S AFFIDAVIT

The undersigned Contractor, _____, represents that on _____, 20____, it was awarded a contract by the City of Ann Arbor, Michigan to _____ under the terms and conditions of a Contract titled _____. The Contractor represents that all work has now been accomplished and the Contract is complete.

The Contractor warrants and certifies that all of its indebtedness arising by reason of the Contract has been fully paid or satisfactorily secured; and that all claims from subcontractors and others for labor and material used in accomplishing the project, as well as all other claims arising from the performance of the Contract, have been fully paid or satisfactorily settled. The Contractor agrees that, if any claim should hereafter arise, it shall assume responsibility for it immediately upon request to do so by the City of Ann Arbor.

The Contractor, for valuable consideration received, does further waive, release and relinquish any and all claims or right of lien which the Contractor now has or may acquire upon the subject premises for labor and material used in the project owned by the City of Ann Arbor.

This affidavit is freely and voluntarily given with full knowledge of the facts.

Contractor

Date

By _____
(Signature)

Its _____
(Title of Office)

Subscribed and sworn to before me, on this _____ day of _____, 20____
_____, _____ County, Michigan

Notary Public

_____ County, MI

My commission expires on:

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS

Fishbeck:DD

1 of 11

5/22/2020

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), the University of Michigan (U of M) Campus and Hospital Complex, and residential areas abutting the arboretum. 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 failing to provide 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 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.

CONTRACTOR QUALIFICATIONS

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR CONTRACTOR QUALIFICATIONS

Fishbeck:DD

2 of 11

5/22/2020

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. Contractor must indicate any project(s) completed that required lining through vertical and horizontal deflections.

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.

4. **Sewer Flow Control.**- The Contractor performing the sewer flow control work shall be fully qualified, experienced, and equipped to complete this work. The Contractor must disclose any sanitary sewer overflows that have occurred on past projects. Contractor shall have performed sewer flow control on a minimum of 3 projects of this complexity in the past 7 years. Contractor shall identify any project(s) that required secondary sound attenuation, large diameter bypass pumping (24-inches or larger), sewer level monitoring, and pump and haul operations. Contractor shall state if equipment is owned or rented.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS

Fishbeck:DD

3 of 11

5/22/2020

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: _____

CONTRACTOR QUALIFICATIONS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

Fishbeck:DD

4 of 11

5/22/2020

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

1.3. Client's Name: _____

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: _____

CONTRACTOR QUALIFICATIONS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

Fishbeck:DD

5 of 11

5/22/2020

Type of Work: _____

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

1.6. Client's Name: _____

Address: _____

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 (\$): _____

CONTRACTOR QUALIFICATIONS

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS

Fishbeck:DD

6 of 11

5/22/2020

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 (\$): _____

CONTRACTOR QUALIFICATIONS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

Fishbeck:DD

7 of 11

5/22/2020

2.3. Client's Name: _____
Address: _____
Contact Name: _____ Contact Phone: _____
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 (\$): _____

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS

Fishbeck:DD

8 of 11

5/22/2020

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 (\$): _____

CONTRACTOR QUALIFICATIONS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

Fishbeck:DD

9 of 11

5/22/2020

3.3. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

3.4. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS

Fishbeck:DD

10 of 11

5/22/2020

4. Sewer Flow Control References

(Must be completed and submitted with Bid for consideration)

List sewer flow control projects for sanitary sewers greater than 24 inches in diameter that you have performed in the past 7 years and provide references. Identify any project(s) that required secondary sound attenuation, large diameter bypass pumping (24 inches or larger), sewer level monitoring, and pump and haul operations. State if equipment is owned or rented.

Firm's Name: _____

Role on Project: _____

4.1. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

4.2. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

CONTRACTOR QUALIFICATIONS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONTRACTOR QUALIFICATIONS**

Fishbeck:DD

11 of 11

5/22/2020

4.3. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

4.4. Client's Name: _____

Address: _____

Contact Name: _____ Contact Phone: _____

Type of Work: _____

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$80,000

Fishbeck:DD

1 of 3

5/22/2020

a. General.- This item shall include all work described and required by the Drawings and specifications for which the item of work "General Conditions" is listed, as well as items of work not listed in the Bid Form including, but not limited to:

1. Scheduling and organization of all work, subcontractors, suppliers, testing, inspection, surveying, and staking;
2. Coordination of, and cooperation with, other contractors, appropriate City of Ann Arbor and University of Michigan agencies/departments, and utilities;
3. Protection and maintenance of utilities, including support, protection, capping, repair, replacement, connection or reconnection of existing pipelines, and utilities damaged by the Contractor's operations;
4. Protection of the features within Nichols Arboretum as described in Detailed Specification "Protection of Arboretum;"
5. Protection of wetlands as described in Detailed Specification "Protection of Wetlands," water courses and drainage ditches, and/or channels;
6. Dewatering and drainage of excavations as required to maintain a stable, open hole;
7. Disposing of excess excavated materials and debris (excluding debris material removed cleaning operations);
8. Maintaining drainage;
9. Maintaining trail and drive openings, sidewalks, bike paths, trails, road ramps for bypass piping, and pedestrian access to and within Nichols Arboretum. This includes the placement and maintenance of gravel in drive and trail openings as directed by the Engineer;
10. Storing all materials and equipment off lawn areas in locations indicated on the Drawings;
11. Temporary removal/relocation, storage, and re-installation/re-setting of miscellaneous features within Nichols Arboretum (benches, boulders, tables, etc.) which conflict with the proposed construction;

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$80,000

Fishbeck:DD

2 of 3

5/22/2020

12. Temporary removal/relocation, storage, and re-installation/re-setting of existing street name, guide, and regulatory signs, mailboxes, etc. which conflict with the proposed construction, including all fasteners, hardware, and materials required for re-installation/re-setting;

13. Furnishing and operating vacuum-type street cleaning equipment a minimum of once per week or as frequently as directed by the Engineer in order to remove mud, soil, rocks, debris, or any other deleterious materials from paved areas;

14. Noise and dust control;

15. Mobilization(s) and demobilization(s);

16. Furnishing submittals and certifications for all materials and supplies;

17. Removal of shrubs, brush, and trees less than 6 inches in diameter as directed by the Engineer;

18. Furnish and install temporary cover(s) to seal and secure sanitary manholes, during non-work hours, capable of withstanding the weight of a human/deer at a minimum;

19. All miscellaneous and incidental items such as overhead, insurance, and permits;

20. Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

b. 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 one 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$80,000

Fishbeck:DD

3 of 3

5/22/2020

The completed work as measured for this item of work will be paid for at the contract unit price for the following contract pay item:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
General Conditions, Max. \$80,000.....	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 Contract Documents and as included in this Detailed Specification.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCOPE**

Fishbeck:DD

1 of 1

4/22/2020

The scope of this project includes cleaning, televising, and lining of 8-inch residential sanitary sewers, 10-inch industrial (medical) sanitary sewer, and 24-inch and 36-inch sanitary interceptor sewers in accordance with the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP), cured-in-place pipe (CIPP) sewer lining and inspection of all remaining manholes in accordance with NASSCO Level 2 Manhole Assessment and Certification Program (MACP). In order to complete this work, diversion of sanitary flows and bypass pumping will be required.

The limits of the project fall within the Nichols Arboretum (Arboretum), University of Michigan Medical Center, and the residential streets abutting the Arboretum. The Arboretum is jointly owned by the City of Ann Arbor and the University of Michigan. The Arboretum is comprised of various natural features, including botanical areas, significant trees and plants, steep slopes, as well as 6 regulated wetlands as indicated on the Drawings. Contractor shall be sensitive to the environment, the patrons of the Arboretum, and the individual requirements of all property owners.

The major elements of the work covered by the Contract Documents under this Contract scope of work is as outlined below:

1. Clean and PACP televise sanitary sewers as shown on the plans.
2. Locate buried fittings between MHs 71-0046 and 71-69899, 71-69899 and 71-69894, 71-69894 and 71-69900, and 71-70014 and 71-70075 by televising those portions of 8-inch sanitary sewer.
3. Divert sanitary flows from the 36-inch sanitary sewer to the Northside Interceptor by installing a plug in MH 71-71813.
4. Bypass pump remaining sanitary flow from sewers entering upstream of the individual sections being cleaned, televised, and lined to manholes downstream of the work area.
5. Perform MACP Level 2 inspection of all other sanitary manholes.
6. CIPP line sanitary sewers as shown on the plans.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

Fishbeck:DD

1 of 4

5/22/2020

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

1. The Contractor is required to comply with and sign the Access Agreement established between the City of Ann Arbor and the University of Michigan. The Contractor's detailed Project Schedule must be completed and approved before the Access Agreement can be finalized. No work can proceed until the Access Agreement is completed.

2. The Contractor shall not begin the work of this project until receipt of the fully executed Contract and Notice-to-Proceed, which is not anticipated to be provided prior to September 28, 2020.

3. The entire work under this Contract including, but not limited to; sanitary sewer inspection, cleaning, televising, and rehabilitation (cured-in-place pipe [CIPP] lining); 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 Substantial Completion date of April 12, 2021.

4. Final restoration within the project limits and any other disturbed areas shall be completed by the Final Completion date, as described in Detailed Specification "Project Clean-Up and Restoration, Special," and as indicated on the Drawings.

Failure to complete the work as required herein, including approved time extensions granted thereto, as determined by the Engineer, shall entitle the City to deduct from the monies due to the Contractor, "Liquidated Damages", and not as a penalty, an amount, as provided for by the Contract in Subsection C, Article III, Page C-1 of the Contract Documents and defined herein.

The Contractor shall be furnished with 2 copies of the Contract, for their execution, on or about July 14, 2020. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificates, to the City within 21 calendar days. The Contractor shall not begin the work before the applicable date(s) as described herein without approval from the Engineer, and in no case before receipt of the fully executed Contract. City Council approval is expected on or about August 6, 2020.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE**

Fishbeck:DD

2 of 4

5/22/2020

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 Engineer. The Contractor will submit authorization requests for any Sunday work a minimum of 3 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, including mobilization and staging, 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 proposed schedule must fully comply with the scheduling requirements contained herein, and in other Detailed Specifications. The Contractor shall update the approved work schedule upon changes and upon request by the Engineer and present it to the Engineer within 7 days of said request or change.

The primary access to the site for the Contractor shall be along Nichols Drive from East Medical Center Drive through Lot M29 in accordance with the requirements and restrictions as described in Detailed Specification "Construction Sequencing." During work on Sewer Segment 2 the Contractor shall be permitted to access the site through the Geddes Avenue entrance to the Nichols Arboretum. For work on Sewer Segments 7 and 8 access will be from Riverview Court. At no time shall the Contractor use the Washington Heights entrance to Nichols Arboretum for construction traffic entering or exiting the site.

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, snow or the threat of rain or snow beyond what is outlined in Detailed Specification "Working in the Rain." The Contractor is solely responsible for repairing all damages to the work and to the site, including steep slopes, 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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

Fishbeck:DD

3 of 4

5/22/2020

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 steep slopes, 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 Christmas Eve and Day, and New Years Eve and Day holiday periods, as defined by the Engineer.

The milestone schedule below indicates dates of intermediate and major project milestones based on an anticipated Notice to Proceed date of September 28, 2020.

Milestone Schedule	
<u>Milestone</u>	<u>Date</u>
Contractor Staging and Mobilization	October 12, 2020
Substantial Completion	April 12, 2021
Final Completion	June 14, 2021

Failure to substantially 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, **\$1,550.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the Substantial Completion date as defined in this Detailed Specification.

If the Contractor fails to complete the work such that Final Completion cannot be granted by the date specified herein, including time extensions granted thereto as determined by the Engineer, it shall entitle the City to deduct from the payments due the Contractor, **\$750.00** in Liquidated Damages, and not as a penalty, for delays in the Final Completion of the work for each and every calendar day beyond the Final Completion date defined in 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.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE**

Fishbeck:DD

4 of 4

5/22/2020

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 3 years. If the Engineer elects to terminate the Contract, contract pay 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.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
UTILITIES COORDINATION

Fishbeck:DD

1 of 3

4/22/2020

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Article 104.08 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction. In addition, for the protection of underground utilities, the Contractor shall follow the requirements in Article 107.12 of the 2012 edition of the MDOT Standard Specifications for Construction.

The following utility owners have facilities located within the rights-of-way surrounding the project or within Nichols Arboretum:

<u>Utility</u>	<u>Type of Service</u>
City of Ann Arbor W.R. Wheeler Center 4251 Stone School Road Ann Arbor, MI 48108 (734) 794-6350	Sanitary Sewer – Travis Conley Water – Daniel Wooden Storm Sewer – Kevin Snyder
City of Ann Arbor W.R. Wheeler Center 4251 Stone School Road Ann Arbor, MI 48108 (734) 794-6361	Signs/Signals/Street Lighting Chuck Fojtik
AT&T 550 South Maple, 2 nd Floor Ann Arbor, MI 48103 (734) 996-2135	Telephone/Fiber Optic
DTE Energy Contact: Julie Gottardi Western Wayne Service Center 8001 Haggerty Road Belleville, MI 48111 (734) 397-4303	Electric

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
UTILITIES COORDINATION

Fishbeck:DD

2 of 3

4/22/2020

DTE Energy (Michcon)
Contact: Laurie Forrester
3150 East Michigan Avenue
Ypsilanti Twp, MI 48198
(313) 389-7261

Gas

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

The Contractor shall also contact and notify the University of Michigan to locate and mark their utilities that may exist within the project limits.

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

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

Work By Others.- During the life of this contract, other public authorities and utility companies may be performing work within or adjacent to the project limits, including, but not limited to; 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 2012 edition of the MDOT Standard Specifications for Construction.

Existing Utilities, Site Features, and Investigations.- The existing utilities structures, features, and site conditions above and underground are indicated on the Drawings from the best available information. These include, but are not limited to; pipelines, conduits, and the like.

It is the Contractor's sole responsibility to perform their own site investigations and research and to incorporate in their bid sufficient amounts for all utilities coordination work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
UTILITIES COORDINATION

Fishbeck:DD

3 of 3

4/22/2020

If any utilities, structures, features, and/or site conditions are discovered or suspected by the Contractor to be different than indicated on the Drawings, the Contractor is obligated to notify the Engineer immediately in writing so an addendum may be issued and/or the bid date may be revised.

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

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

City of Ann Arbor
Public Services Area - Project Management Services Unit
301 East Huron Street; P.O. Box 8647
Ann Arbor, MI 48107-8647

Brian Slizewski, PE
Senior Project Manager
(734) 794-6410 ext. 43635
BSlizewski@a2gov.org
8:00 a.m. to 5:00 p.m. (only)

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

Reference the Detailed Specification for "Extension of Time, Additional Compensation" for provisions regarding delays.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PERMITS

Fishbeck:DD

1 of 1

5/22/2020

a. General.- The Contractor shall secure all permits required by the agency having jurisdiction, shall abide by all rules and regulations of each, and shall pay all costs in connection with the permits. The Contractor shall pay for all permit and inspection fees as the agencies may charge to ensure compliance with their requirements, unless stated otherwise herein. The Contractor shall not be reimbursed for permit, inspection fees, retainage, bonds, or any other associated permit costs. These amounts shall be included in the item of work for “General Conditions.” City of Ann Arbor (City) Lane Closure permits, “No Parking” signs permits, and Right-of-Way permits shall be secured as required under Section 9 of “General Conditions.”

The Contractor shall be aware that permits must be submitted with the name of the Prime Contractor as the Designated Agent. The City will waive the fees for City issued permits. The Contractor shall coordinate with and complete all necessary paperwork for the respective City Units for the procurement of the needed permits.

All costs associated with coordinating with the City to obtain the permits will not be paid for separately.

b. City of Ann Arbor Grading/Soil Erosion and Sedimentation Control (SESC) Permit.- The Contractor shall obtain a City of Ann Arbor Grading/SESC Permit prior to beginning any work on this project. A copy of the permit application is included for the Contractor’s information and to complete and submit along with the SESC plans in the Drawings.

c. City of Ann Arbor Traffic Control Permit.- The Contractor shall obtain a City of Ann Arbor Lane Closure Permit prior to beginning any work on the project. The permit process is completed online via the City’s website: <https://etrakit.a2gov.org/etrakit3/>

d. City of Ann Arbor Right-of-Way Permit.- The Contractor shall obtain a City of Ann Arbor Right-of-Way Permit prior to beginning any work on the project. A copy of the permit application is included for the Contractor’s information and to complete and submit along with the Drawings.

e. University of Michigan Access Agreement.- University of Michigan permits for OSEH storm water and soil erosion are not required for this project. The Access Agreement established between U of M and the City delegates all responsibility for these items to the City, as well as other constraints. A copy of the agreement from the last project performed in the Arboretum is attached to the end of this section as an example. The Contractor must submit the approved construction schedule to U of M via the City in order to finalize the agreement. The Contractor is required to sign and comply with the finalized agreement.



City of Ann Arbor
PLANNING & DEVELOPMENT SERVICES — BUILDING DIVISION

301 East Huron Street | P.O. Box 8647 | Ann Arbor, Michigan 48107-8647
 p. 734.794.6263 | f. 734.994.8460 | pstephens@a2gov.org

**GRADING/SOIL EROSION AND SEDIMENTATION
 CONTROL PERMIT APPLICATION**

Part 91 of Act No. 451 of Public Acts of 1994 as amended, being Section 324.9101 - 324.9123
 of Michigan Compiled Laws and Title V, Chapter 63, City of Ann Arbor Ordinance Code

Permission is requested by the Property Owner and designated agent to perform work as
 described below and on the reverse side, and as shown on the attached plans.

YOU *MUST* FILL IN ALL FIELDS

PROPERTY	Address	Tax ID No.	Lot #
	Between	And	
PROPERTY OWNER	Name	Ph	Fax
	Address		
CONTRACTOR/ DESIGNATED AGENT	Last Name/Business	Ph	Fax
	Address	City	License No. Exp.
ARCHITECT/ ENGINEER	Name	Ph	Fax
	Address	License No.	
PROJECT INFORMATION/NAME:			
TYPE OF WORK			
<input type="checkbox"/> Build/Finish <input type="checkbox"/> Addition(s) to <input type="checkbox"/> Alteration(s) to <input type="checkbox"/> Demolition/Cleaning <input type="checkbox"/> Move <input type="checkbox"/> Repair(s) to <input type="checkbox"/> Replacement of <input type="checkbox"/> Other _____	<input type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Portion(s) of existing <input type="checkbox"/> Foundation only <input type="checkbox"/> Other _____ _____ _____	<input type="checkbox"/> Single Family Residence <input type="checkbox"/> Garage <input type="checkbox"/> Driveway <input type="checkbox"/> Multiple Structure Development <input type="checkbox"/> Commercial <input type="checkbox"/> Utility <input type="checkbox"/> Public Facility <input type="checkbox"/> Other _____	

You ***MUST*** submit ***TWO (2)*** copies of plans.

FLOODPLAIN/WETLAND

Name of and distance to nearest lake, stream or drain: _____

Does project require MDEQ Permit? Yes No DEQ Permit # _____

DESCRIPTION OF WORK _____

ON-SITE CONTACT:

NAME: _____ Company Name _____

ADDRESS: _____ PHONE: (_____) _____

Total Area of Parcel (In Acres): _____ E-MAIL: _____

Total Area of Proposed Earth Disruption (Nearest 1/10th of an acre): _____

2 COPIES OF THE GRADING PLAN MUST ACCOMPANY THIS APPLICATION. Please verify that all of the following information required is included on the grading plan:

For Projects on One Single Family Parcel or Lot:

- The scale of the grading plan. (Not to exceed 1"= 50'.)
 A description of the soil types of the exposed land area contemplated for the earth change.
 All natural features (landmark trees, wetlands, floodplains, woodlands, steep slopes, etc.) within 50 feet of proposed disturbance; and watercourses or lakes within 500 feet of the proposed disturbance.
 All existing and proposed structures are shown on the plan (differentiate between the two).
The physical limits of each proposed earth change including any areas that will be disturbed.
 Existing and proposed grade changes (differentiate between the two) using contour lines or accurate slope descriptions.
 Arrows indicating existing and proposed (differentiate between the two) water runoff patterns.
 A description and the location of all proposed temporary and permanent soil erosion and sediment control measures necessary to prevent offsite sedimentation.

FOR NEW HOUSE CONSTRUCTION ONLY, the following relative spot elevations are shown:

- First floor elevation.
 Lowest floor (basement) elevation for a walkout.
 A spot elevation of the street in front of the structure.
 High and low spot elevations on the lot (existing and proposed)

Proposed Construction Sequence (month/year)*:

- Project start date: ____ / ____
Gravel drive or mud mat installed: ____ / ____
Erosion control measures installed (erosion control inspection): ____ / ____
Land clearing: ____ / ____
Excavation started: ____ / ____
Stormwater Management Sys. installed: ____ / ____
Utilities constructed: ____ / ____
Roads constructed: ____ / ____
Pre-footing inspection: ____ / ____
Install foundation: ____ / ____
Final grading/ seeding: ____ / ____
Permanent erosion controls installed: ____ / ____
Temporary erosion controls removed1 : ____ / ____
Project complete (final inspection)2 : ____ / ____

* Please note that all of the items may not applicable to all jobs. If this is the case, simply indicate N/A.

1 Temporary erosion controls cannot be removed until the site is stabilized.

2 Site must be stabilized with permanent measures prior to scheduling of the final inspection.

NOTE:

- 1. Earth disruption may not commence prior to issuance of Grading/Soil Erosion and Sedimentation Control permit.
2. If project involves work within a floodplain, wetland, or cross section of a lake or stream, you must obtain an MDEQ permit prior to issuance of this permit.
3. Permittee is cautioned that grade changes resulting in the impoundment of water or increased runoff onto adjacent property is subject to civil damage litigation.

The Property Owner's signature is required either as the sole permit holder or to authorize the contractor to be the designated agent.

Permit holder will be:

- Property Owner
- Contractor / Designated Agent

(NOTE: Contractor is NOT allowed to act as a designated agent if Contractor is in non-compliance status on other permits.)

I (we) affirm that the above information is accurate and that I (we) will conduct the above described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Chapter 63 of the Ann Arbor Ordinance Code, the documents accompanying this application, and with all terms and conditions of the permit as it may be issued, and agree to pay all fees and costs that may come due as a result of any activity under the permit.

Property Owner's Signature

Print Name

Date

OR

I (we), the Property Owner, authorize the Contractor identified on this application to be my Designated Agent and to secure a grading permit on my behalf.

Property Owner's Signature

Print Name

Date

I (we) affirm that the above information is accurate and that I (we) will conduct the above described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Chapter 63 of the Ann Arbor Ordinance Code, the documents accompanying this application, and with all terms and conditions of the permit as it may be issued, and agree to pay all fees and costs that may come due as a result of any activity under the permit.

Designated Agent's Signature

Print Name

Date

OFFICE USE ONLY

GRADING NOTES: _____

Approved By: _____ Approval Date: _____

FEEES

Grading Permit \$ _____

Cash Bond: \$ _____

Inspection Escrow:

(Months of construction) x (\$100/ Month)

_____ X _____ = \$ _____

- Escrow must be collected at issuance of permit
- Designated agent is responsible for contacting city, for release of outstanding escrow, at completion of project



City of Ann Arbor Customer Service

301 E. Huron | P.O. Box 8647 | Ann Arbor, Michigan 48107-8647
 p. 734.794.6320 | f. 734.994.8991 | customerservice@a2gov.org

PERMIT No. ROW _____ - _____

RIGHT-OF-WAY APPLICATION

Permission is requested by the Contractor to perform work as described below and as shown on the attached plans, within the City of Ann Arbor's right-of-way. A copy of the permit shall be at the work site at all times.

ADDRESS OF PROPOSED WORK/ACTIVITY: _____

PROPOSED DATES OF WORK/ACTIVITY: START _____ COMPLETION _____

TYPE OF WORK & ROW IMPACTS (Check and complete **ALL** that apply):

- Underground Utility:** Water (size ___") Sewer Gas Electric Telecomm Other _____
- Service Lead: [Under Street and/or Behind Curb] ; [Trenched and/or Bore]; Total Length in Feet _____
- or
- Utility Main Line: [Under Street and/or Behind Curb] ; [Trenched and/or Bore]; Total Length in Feet _____
- Lane Closure Needed (Impacting Flow of Traffic) – (Application to be filed with Project Mgmt)**
- Drive Approach:** New or Remove/Replace; Residential or Commercial; No. of Approaches _____
- NOTE: Width: 10'-24' (Single- or Two-Family); 24'-30' (All Other). Turning Radius: 5'-15'. Curb Cut Max: 60'
- Sidewalk or Bikepath:** Area _____ S.F. (Remove/Replace Sidewalk or Bikepath)
- Utility Poles:** Remove/Replace (Same Location) Remove New; Total No. of Poles Impacted _____
- Cable (Aerial or Through Existing Conduit):** Length in Feet _____
- Soil Borings:** No. of Borings _____ **Monitoring Wells:** No. of Well Heads _____
- Earth Retention System** Total Length in Feet _____ **Tree Impacts – Forestry Permit Required**

DESCRIPTION OF WORK: _____

Contractor, acting through the undersigned, agrees to comply with all terms and conditions of permit as it may be issued and agree to pay all fees and costs that may come due as a result of any activity under the permit.

SIGNATURE: x _____

Print Name of Signature and Title: _____

Company Name : _____

Address: _____

Phone: _____

Email: _____

OFFICE USE ONLY:

Date of Application Submittal: _____

Contractor's Insurance Expiration Date: _____

3 Sets of Plans Attached

Special Permit Conditions Attached

Street-cut Moratorium List Checked?

Reviewing Dept. / Div.	Approved By	Date
Project Management		
Planning & Development		
Other:		
FEE: \$		

Updated: 11/10/15 CF

**RIGHT-OF-WAY PERMIT
TERMS, CONDITIONS AND REQUIREMENTS**

1. The Contractor shall perform all its work and activities in accordance with the **City of Ann Arbor Public Services Standard Specifications (STANDARD SPECIFICATIONS)**. Contractors shall acquaint themselves with the STANDARD SPECIFICATIONS prior to undertaking any work or activities within the right-of-way.
2. The Contractor shall **schedule the inspection** of each work activity with the applicable department(s) / service area(s), a minimum of 72 hours or as otherwise required prior to the time of inspection.
3. The Contractor shall submit its request for the times/dates of any **Lane Closure Permits** to the Public Services – Project Management Unit for review and approval a minimum of 72 hours prior to the work being performed. Project Management must approve all lane closures in advance of the work being completed.
4. The Contractor shall submit its valid, current **certificate of insurance** to Customer Service for review and approval prior to permit approval. Contractor's insurance shall comply with City Code Chapter 47, and shall remain in effect throughout the work. City Code is available at City Clerk's Office or at <http://www.a2gov.org>.
5. The Contractor shall satisfy the requirements of the State of Michigan **MISS-Dig Law** as set forth in MCL 460.701 through MCL 460.718, Public Act 248.
6. The Contractor shall place a **hard surface over all disturbed pavement areas** at the end of each day, in accordance with STANDARD SPECIFICATIONS, or as otherwise directed by the Public Services Area.
7. The Contractor shall install and maintain all **detours, lane closures, signing, traffic control devices, etc.**, in conformance with the Michigan Manual of Uniform Traffic Control Devices, and in accordance with City Code Chapter 47, Section 4:23, and as directed by the Public Services Area.
8. The Contractor shall take, provide and maintain all **necessary precautions to prevent injury or damage** to persons and property, from operations covered by this permit, and shall satisfy the requirements of the State of Michigan Department of Labor Construction Safety Standards, particularly Parts 1, 9 and 21.
9. The Contractor shall submit **three sets of construction plans** with any permit application for proposed utility main-line construction.
10. When required by the City, the Contractor shall **submit detailed construction plans** of all proposed work.
11. The Contractor shall submit a permit application for **emergency utility work** no later than the business day following the start of the work. Project Management shall be notified at 734 794-6410 prior to beginning any work.
12. The Contractor shall coordinate all **tree (and/or root) trimming and/or removal** within the right-of-way with the City Field Operations at 734 794-6350, as required by City Code Section 3:12. A Forestry Permit may be required.
13. The **Contractor and Owner shall indemnify and reimburse the City** for any and all restorative costs resulting from the Contractor's work not complying with the terms and conditions of the permit as it may be issued.
14. The Contractor shall obtain an **MDOT permit** for all proposed work/activity on **State Trunklines**, prior to and in addition to, obtaining City of Ann Arbor Right-Of-Way and Lane Closure permits.
15. The Contractor shall maintain a **copy of all City and State required permits at the work site**.

PROPERTY ACCESS AGREEMENT

**BETWEEN THE REGENTS OF THE UNIVERSITY OF MICHIGAN
AND THE CITY OF ANN ARBOR
FOR INSTALLATION OF AN ACCESS ROAD AND A TEMPORARY SANITARY
SEWER BYPASS SYSTEM**

THIS PROPERTY ACCESS AGREEMENT ("Agreement") is made and entered into this 15th day of November, 2016, by and between THE REGENTS OF THE UNIVERSITY OF MICHIGAN, a Michigan constitutional corporation, with an address of 326 E. Hoover, AEC - Real Estate Office, Ann Arbor, MI 48109-1002 ("University") and the CITY OF ANN ARBOR, A Michigan municipal corporation, 301 E. Huron Street, Ann Arbor, Michigan 48104 ("City").

BACKGROUND

A. The University is the owner of certain real estate in the areas known as the University Hospital and Nichols Arboretum, in the City of Ann Arbor, Michigan including the two parcels identified on **Exhibit A** as "Parcel A" and "Parcel B" (collectively "University Property").

B. The City has sanitary sewers and appurtenances that cross portions of the University Property, including a siphon, that require periodic inspection and maintenance. The City has an easement for the portion of the sanitary sewer on Parcel A set forth in the Right of Way for Sewers, between the University and the City, dated January 25, 1933.

C. The City has requested permission from University to access the University Property to inspect, line, and repair these sanitary sewers and use a portion of the University Property to install a temporary sanitary sewer bypass system for the City which consists of a 12" above ground pipeline, hydraulic pumps, a generator, monitoring equipment, signage, and a crane; and also to install a gravel road with a gate and a gravel pad to access the siphon (collectively, the "the Permitted Facilities") in the areas depicted on the attached **Exhibit B** (the "Access Area").

D. The University is willing to grant the City permission to enter the University Property and use a portion of the University Property for the purpose of inspecting, lining, and repairing sanitary sewers and installing, maintaining, removing and monitoring the Permitted Facilities in the Access Area. The installation of the temporary sanitary sewer bypass system will begin at manhole number 71-69254 east of the University's helipad and continue along the sanitary sewer pipeline to manhole number 71-69893. The pipeline will be installed along Nichols Drive and under the Caretakers Field Office Road so as not to restrict service or safety vehicles.

E. The University and the City will execute an Easement Agreement for the gravel road, gate and gravel pad to remain on the University Property after the expiration of this Agreement.

NOW, THEREFORE, in consideration of the foregoing, certain valuable non-monetary consideration, and of agreements hereafter contained, the University hereby grants to the City the right to access the University Property and the right to use a portion of the University Property subject to terms and conditions set forth herein.

1. Access Areas and Use.

(a) Area. University grants to City a license for City to access the University Property and use the Access Area (the "License") 24 hours a day, seven days a week (except as set forth in Section 5, below) solely for the purpose(s) of performing inspection, lining, and repair of sanitary sewers and installing, maintaining, and monitoring the Permitted Facilities and also to remove the Permitted Facilities from the Access Area (except the gravel road, gate and pad), as further described in paragraphs C and D, above. The License applies only to the Access Area and not to any other portion of the University's Property except as may be necessary to gain access to the Access Area, including ingress and egress over East Medical Center Drive and Nichols Drive as more specifically detailed in Section 5, below.

(b) Use. No person who is not an employee, contractor, subcontractor, agent or invitee of City shall be permitted on the Access Area. City is strictly prohibited from making any alterations, additions, improvements, modifications or changes to the Access Area except as authorized by this Agreement. City is prohibited from making waste to the Access Area. City is further strictly prohibited from causing any disturbance, including noise or odor, which may unreasonably disturb other occupants of the University Property or users of the Access Area or its environs. City shall keep and maintain the Access Area in good, clean, orderly and safe condition.

2. Term. The term of this Access Agreement ("Term") shall commence upon the date of execution of this Agreement and shall expire on June 1, 2017.

3. City's Responsibilities. The City shall be responsible for all costs associated with the Permitted Facilities and shall leave the University Property in the condition in which the City, or City's contractors, agents or representatives, found it. The City shall not permit any liens to attach to the Property by reason of the exercise of the City's rights hereunder. All tools, equipment, temporary improvements, and other personal property taken upon or placed upon the University Property by the City shall remain the property of the City and must be removed by the City prior to the expiration of this Agreement.

4. Siphon Access Road, Gate and Pad.

The City may construct a gravel access road and gravel pad to access the sanitary sewer and siphon as shown on **Exhibit C**. The City may remove vegetation, including trees, only as necessary to construct the access road and pad as shown on **Exhibit C**. The City shall install a lockable gate across the access road to prevent unauthorized vehicle access and City shall provide a copy of the key to the University.

5. Access over E. Medical Center Drive, Nichols' Drive and University Parking Lot M29. The City may access the Access Area via the University-owned roads E. Medical Center Drive (paved) and Nichols' Drive (gravel) and the University Parking Lot M29 ("Lot M29") as shown on **Exhibit D** (the "Access Route"); with the following terms and conditions:

(a) There shall be no obstruction of, parking on, or staging of trucks on Nichols Drive, E. Medical Center Drive and Lot M29. At no time will vehicular access be blocked along the Access Route and to the caretaker cottage located on the University Property;

(b) The City and the Contractor shall not use Lot M29 for staging of construction,

(c) Contractor may only drive large trucks along the Access Route from 8:00pm to 8:00am on each Monday – Friday. Contractor may drive large trucks along the Access Route from 4:00pm each Saturday through 8:00am each Monday; provided that if this use of the Access Route causes congestion for University staff and patients using the Access Route the University may adjust the access hours in the section to mitigate the congestion while preserving the ability of the City to complete the project within the term of this Agreement. The City shall provide traffic controls along the Access Route, as needed;

(d) If the Contractor elects to truck water along the Access Route, this work will be limited to 60-hour consecutive periods from 8:00pm Friday through 8:00am Monday; provided that such activity must be coordinated and approved in advance with University. During these periods, the Contractor shall remain in radio contact or communicate via other means with water tanker truck drivers to coordinate use of the Access Route to mitigate congestion and other impacts along the Access Route:

(e) The City will install, at the City's expense, signs along the Access Route indicating that parking is prohibited during the hours set forth above and warning that cars parking during those hours may be towed. The City may have a contractor tow cars that are parking along the Access Routes during the City's access hours.

6. The Slope. There is a slope down from E. Medical Center Drive to the railroad right-of-way below Nichols Drive (the "Slope"), as shown on **Exhibit D**. The

University is concerned that the Work may cause that slope to erode. The University acknowledges that the Slope is experiencing documented sliding/sloughing that began prior to the commencement of this work. The University will engage, at the City's expense, a company to monitor the Slope during the Term. The City will reimburse the University for the third-party monitoring costs up to \$5,000.00 and shall pay the University within 30 days of receipt of an invoice from the University. The University shall provide copies of all Slope monitoring reports to the City.

7. Compliance with Law. The City shall perform all work related to the Permitted Facilities (the "Work") at the City's expense and in compliance with all applicable laws, ordinances and regulations and obtain at City's own expense all permits, licenses, certificates and approvals required to perform the work.

8. Crane. Any crane used by City or City's contractor to perform the Work, will not exceed any height limits imposed for University's hospital helicopter use and Federal Aviation Administration regulations and when using any crane shall at all times comply with any applicable local, state and federal regulations.

9. Construction and Access Schedule. Within 5 business days after execution of this Agreement, the City shall provide the University with notice of the commencement, and shall include a description of their construction activities and a schedule for accessing the University Property and the Access Route and an estimated completion date. City shall also provide plans for traffic control sequencing, signage and staging. Any change to the schedule for access of the University Property must be approved in advance with the University. Any requests for changes to the schedule for access of the University Property should be emailed to Mary Krasny at mlkrasny@umich.edu and Judy Kirkdorffer at jkirkdorf@umich.edu at least 5 business days in advance of the effective date any requested change.

10. Security of Property. The City shall include reasonable security measures, to minimize the risk of property damage or bodily injury at or in the vicinity of the University Property as the result of the Work.

11. Restoration. The City shall repair, or cause to be repaired, any damage to University-owned real or personal property (including the Access Route and the Slope), third-party owned real or personal property and the University Property caused by performing the Work and shall leave the University Property in substantially the same condition as existed as of the date of commencement of the work. When restoring the area around the new access road and pad, the City shall use woodland seed. The City shall not remove any trees from the University Property, except as permitted for the access road, pad, and gate.

12. Insurance. City's contractors and any and all subcontractors (hereinafter contractors) shall obtain at their own cost and expense, and keep in full force and effect, during the term of their access upon the University Property, a comprehensive general liability insurance policy in an amount not less than One

Million Dollars (\$1,000,000.00) combined single limit for bodily injury, death and property damage arising out of any one occurrence, protecting the University against any and all claims for bodily injury, death or property damage arising directly or indirectly from the contractor's use of the Site. Such policy or policies shall name the University as an additional insured. The policy or policies required hereunder shall be issued by insurance companies qualified to do business in the state and such policy or policies shall provide at least twenty (20) days' notice to the Owner before cancellation or material modification. The City's contractors shall deliver to the University certificates of such insurance evidencing the coverage in force as of the commencement date of this Agreement, as well as any replacement certificates issued during the Term of this Agreement.

13. Default. If the City fails to observe or perform any of its obligations under this Agreement, then the City shall be in default under this Agreement, and University may, at its option, exercise one or more of the following remedies:

(a) After meeting and conferring with the City to resolve the nonperformance, to declare this Agreement terminated;

(b) Obtain specific performance of the covenants and obligations of the City under this Agreement; or

(c) Perform the obligation on behalf of the City in which event the costs and expenses paid or incurred by the University in performing the City's obligations shall be immediately due and payable to the University following receipt of the University's invoice.

14. Nature of License. No legal title, easement or other possessory interest in real estate, including any leasehold interest in the Access Area, or any appurtenances to it, shall be created or deemed or construed to have been created or vested in the City by anything contained in this Access Agreement. This grant of License is personal and not transferable or assignable in whole or in part.

15. Supervision. The City shall be responsible during the term of this Agreement for the supervision of the activities of all of the City's agents, employees, contractors, subcontractors, licensees and invitees in connection with access to and use of the Access Area. The University may remove any person on the Access Area that in any manner violates any aspect of conduct allowed in or around the Access Area. Any interference or delay caused by the City or any of its agents, employees, contractors, subcontractors, licensees and invitees in the University's efforts to remove a person shall be deemed a material breach of this Agreement.

16. Termination. The access and use rights granted pursuant to this Agreement may be terminated by the University or City by providing written notice to the other party. Upon any such termination, the City shall have continued access to the Property for a reasonable and sufficient period of time to permit the City to complete any necessary repairs as set forth in Paragraphs 3 and 11 of this Agreement.

17. Notices. Any notice permitted or required to be given under this Agreement shall be in writing and shall be deemed to be duly given when delivered certified mail, return receipt requested, to the party entitled to such notice at their address set forth hereinabove, with a copy to:

For the City: City of Ann Arbor
Public Services Area
Project Management Services Unit
301 E. Huron Street
Ann Arbor, Michigan 48104

For the University: The Regents of the University of Michigan
AEC - Real Estate Manager
326 E. Hoover, Mail Stop B
Ann Arbor, MI 48109-1002

18. Third Parties. The access and use rights granted to the City under this Agreement is a personal privilege of the City and shall not be transferred or assigned except as provided in Paragraph 1 hereof. Nothing in this Agreement, whether express or implied, is intended to relieve or discharge the obligation or liability of any third persons to either party to this Agreement, nor will any provision give any third persons any right of subrogation or action over or against either party to this Agreement.

19. Governing Law and Venue. All matters arising out of or related to this Agreement shall be governed by and construed under the laws of the State of Michigan without regard for principles of choice of law and shall be brought in a court of subject matter jurisdiction within the state of Michigan. The Parties and their successors and assigns consent to the jurisdiction of the courts of or within the state of Michigan with respect to any other claims arising under this Agreement.

20. Entire Agreement. This Agreement together with all its Exhibits constitutes the entire agreement between the parties to the Agreement regarding the subject matter of this Agreement and cannot be amended or modified except by a writing signed by all of the parties to this Agreement. The exhibits attached to this Agreement is incorporated into the Agreement and made a part of this Agreement for all purposes.

21. City Contractors and Indemnification by City Contractors.

(a) City shall provide University with a list of all of its contractors and any and all subcontractors who shall access the University Property (hereinafter "City Contractors") pursuant to this Agreement.

(b) All City Contractors shall indemnify and hold University harmless from

and against any and all damage to property or injury or death to persons, and from and against any and all costs, claims, damages, causes of action, liabilities and expenses of any nature whatsoever (including reasonable attorney's fees) arising out of or in connection with the Work. Before any City Contractor accesses the University Property, City shall cause them to execute the attached "Acknowledgment of Access Agreement". City shall promptly provide copies of each signed acknowledgement to University.

22. Environmental.

(a) The Permitted Facilities include a generator. City will take appropriate measures to avoid fuel spills and contain any potential fuel spills.

(b) City will comply with all applicable federal, state, and local environmental laws and regulations in all activities undertaken pursuant to this Agreement, including the operation of any generator or diesel tanks on the University Property. City is solely responsible for the prompt, lawful and proper disposal of any and all waste materials and contamination to the University Property, if any, generated by City's activities and the activities of anyone acting on its behalf (including employees, contractors, vehicles or equipment). If any contamination is released onto the University Property, City shall immediately clean up any such releases and shall ensure no contamination shall be released into any storm drains in the area during the clean-up procedure. If a release occurs that requires a corrective action plan, City shall as soon as possible notify University. If City fails to promptly clean up a release, University may perform such clean up on behalf of City in which event the costs and expenses paid or incurred by University in performing City's obligations shall be immediately due and payable by City to University following City's receipt of invoice with backup documentation of all such costs and expenses.

23. Counterparts. This Agreement may be executed in counterparts, and it shall not be necessary that the signatures of all parties hereto be contained on any one counterpart hereof; each counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

24. Third Party Beneficiaries. Nothing in this City Agreement, express or implied, is intended to or will be construed to confer upon any person or party, other than the University and City, any right, remedy, or claim under or with regard to the Agreement.

25. Severability. Whenever possible, each provision of this Agreement will be interpreted in a manner so as to be enforceable, valid, and legal under applicable law. If any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable, invalid, or illegal in any respect under applicable law, the unenforceability, invalidity, or illegality will not affect any other provision of this Agreement and this Agreement will be construed as if the unenforceable, invalid, or

illegal provision had never been contained in this Agreement.

26. No Waiver. No delay or failure on the part of the University in the exercise of any right granted under this Agreement or otherwise available by Agreement, at law, or in equity, shall impair any right, to be construed as a waiver of any default or any acquiescence.

27. Relationship of The Parties. Nothing contained in this Agreement shall be deemed or construed by the parties or by a third party to create the relationship of principal and agent or of a partnership or of a joint venture or of any association whatsoever between the University and the City.

28. Exhibits. The following exhibits are attached to this Agreement and incorporated into this Agreement:

- (a) Exhibit A: University Property
- (b) Exhibit B: Access Area
- (c) Exhibit C: Gravel Access Road, Gate and Pad
- (d) Exhibit D: Access Route

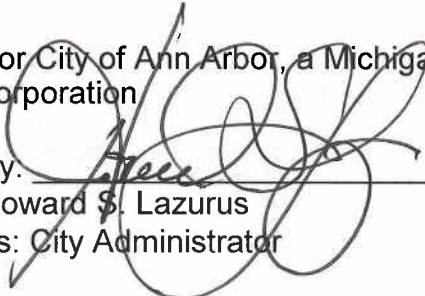
IN WITNESS WHEREOF, the parties have executed this Agreement on the date first above written.

UNIVERSITY: The Regents of the University of Michigan, a Michigan constitutional corporation

By: Mary Krasny
 Name: Mary Krasny
 Its: Associate Director Real Estate & Leasing-AEC
 Date: 11.7.16

[SIGNATURES CONTINUE ON THE FOLLOWING PAGE]


For City of Ann Arbor, a Michigan municipal corporation

By:  10/15/16
Howard S. Lazurus
Its: City Administrator

Approved as to substance:

By: 
Craig Hupy
Its: Public Services Area Administrator

Approved as to form:


CF By: 
Stephen K. Postema
Its: City Attorney

ACKNOWLEDGMENT OF ACCESS AGREEMENT

I, John Thompson, confirm that I have read the Property Access Agreement (the "Agreement") entered into by THE REGENTS OF THE UNIVERSITY OF MICHIGAN and the CITY OF ANN ARBOR, dated _____, 2016. I understand the terms of the Agreement and agree to comply with the terms of the Agreement, including the terms regarding indemnification and insurance as if I were an original party to the Agreement.

RECEIPT AND ACCEPTANCE ACKNOWLEDGED

LiquiForce Services (USA) Inc (Name of Contractor)

By: 

Title: Technical Representative

Date: 11/14/2016

EXHIBIT A
UNIVERSITY PROPERTY

PARCEL A

09-09-28-101-007 (1433 WASHINGTON HEIGHTS)

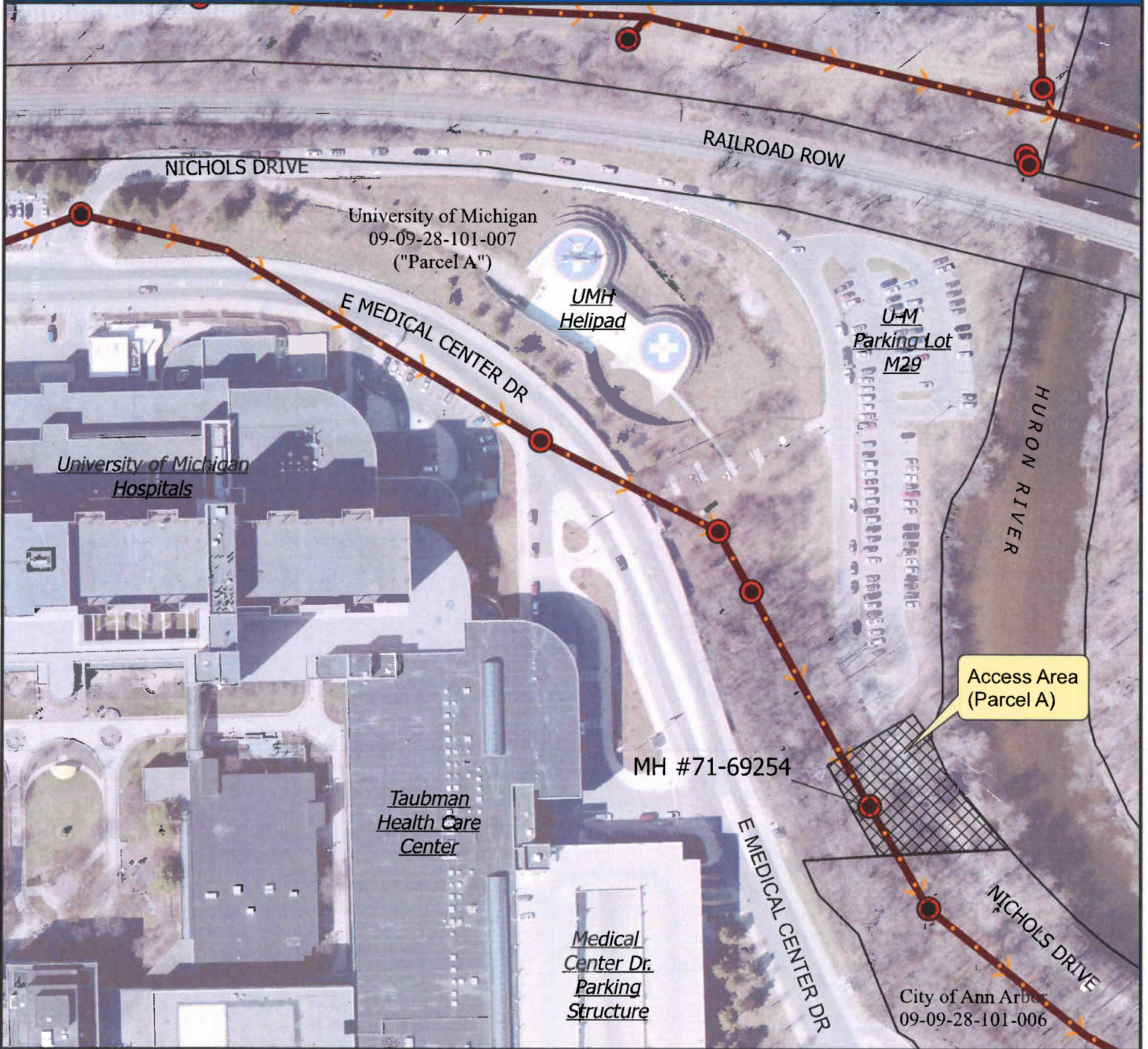
PRT NE 1/4 SEC 28 T2S R6E BD N BY NYC RR R/W & HURON RIVER E BY CITY OWNED PROPERTY
(09-28-101-006) S BY WASHINGTON HTS NL FOREST HILL CEMETERY W BY N & SL SEC 28 & EL
FOREST HILL CEMETERY EXC THAT PORTION OWNED BY THE CITY SPLIT ON 02/15/2007 FROM 09-
09-28-101-001

PARCEL B

PARCEL 09-09-27-201-001 (FULLER RD VACANT)

PRT W 1/2 SEC 27 T2S R6E BEG CENT SEC 27 TH S 87 DEG 48 MIN 20 SEC W 2179.83 FT TH S 1 DEG
43 MIN E 753.43 FT TH N 88 DEG 43 MIN 30 SEC W 157.38 FT TH N 87 DEG 18 MIN 30 DEX W
153.4 FT TH S 89 DEG 47 MIN 40 SEC W 154.79 FT TH N 0 DEG 56 MIN W 725.03 FT TH N 0 DEG 53
MIN 20 SEC W 1195.28 FT TO NL HURON R TH NE E & SE ALG NL RIV TO N & S 1/4 L SEC 27 TH S 1
DEG 16 MIN 20 SEC E 805.33 FT TO POB EXC HURON RIVER

Exhibit B ACCESS AREA (PARCEL A)



Legend

- Access Area
- Existing City of Ann Arbor easement area
- City of Ann Arbor Tax Parcel

Sanitary Sewer

- Sanitary Manhole (Non UM-Owned)
- Sanitary Main (Non UM-Owned)

0 75 150 300
Feet

Michigan State Plane Coordinate System, South Zone
Map Units: International Survey Feet
Horizontal Datum: NAD 1983
Digital orthophoto images based on 2014 aerial photography

Notes:

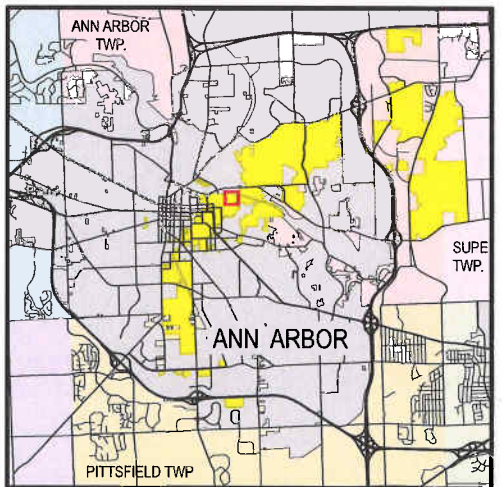
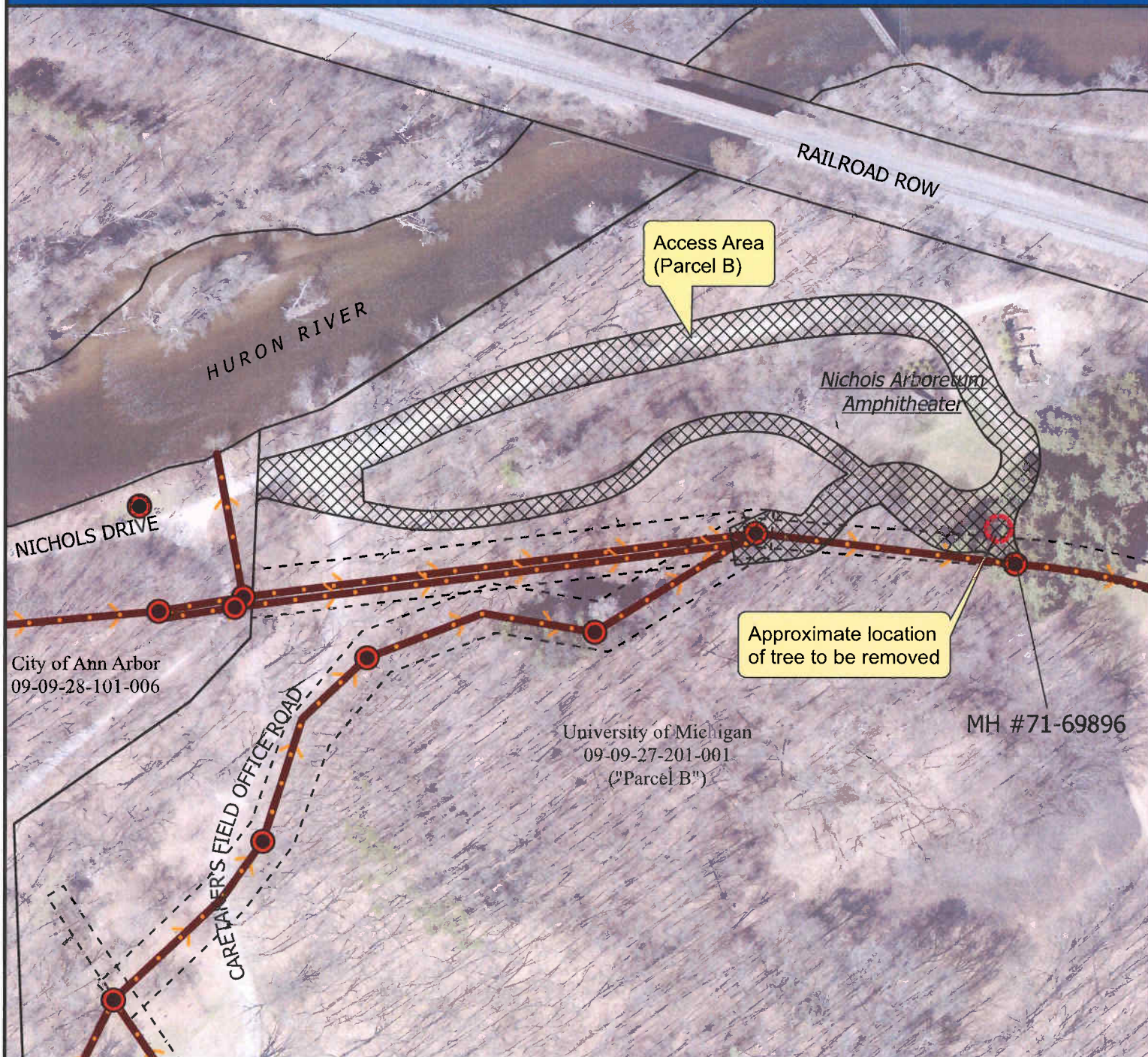


Exhibit B ACCESS AREA (PARCEL B)



Legend

- Access Area
- Existing City of Ann Arbor easement area
- City of Ann Arbor Tax Parcel

Sanitary Sewer

- Sanitary Manhole (Non UM-Owned)
- Sanitary Main (Non UM-Owned)

0 75 150 300 Feet

Michigan State Plane Coordinate System, South Zone
Map Units: International Survey Feet
Horizontal Datum: NAD 1983
Digital orthophoto images based on 2014 aerial photography

Notes:

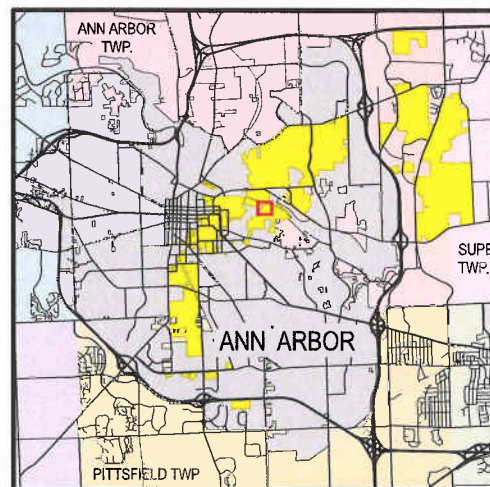
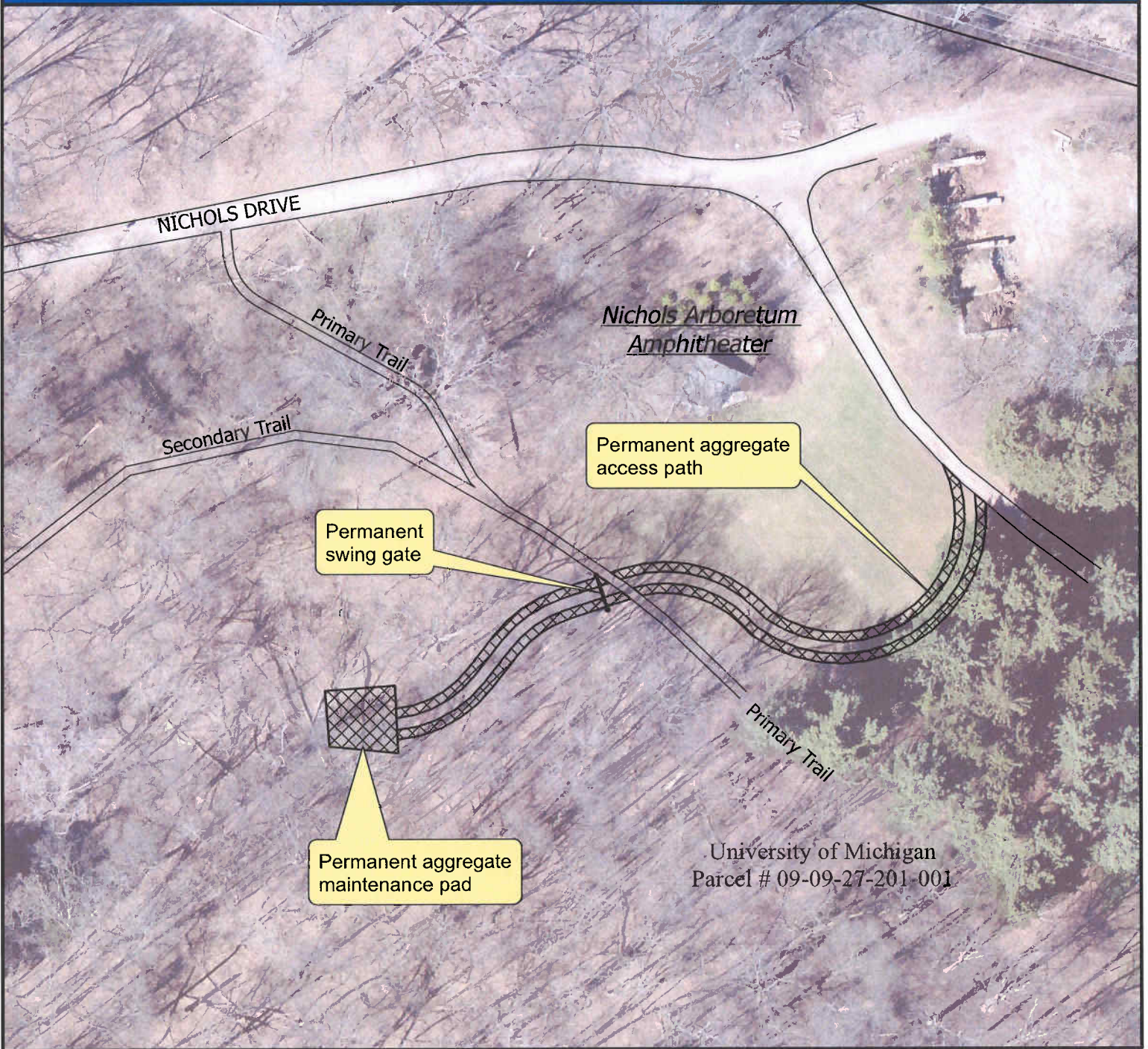





Exhibit C Gravel Access Road, Gate and Pad



Legend

-  Aggregate access path and maintenance pad
-  Swing gate
-  Existing gravel drive/walking path



Michigan State Plane Coordinate System, South Zone
 Map Units: International Survey Feet
 Horizontal Datum: NAD 1983
 Digital orthophoto images based on 2014 aerial photography

Notes:

 **UNIVERSITY OF MICHIGAN**
 ARCHITECTURE, ENGINEERING AND CONSTRUCTION
 Real Estate & Leasing

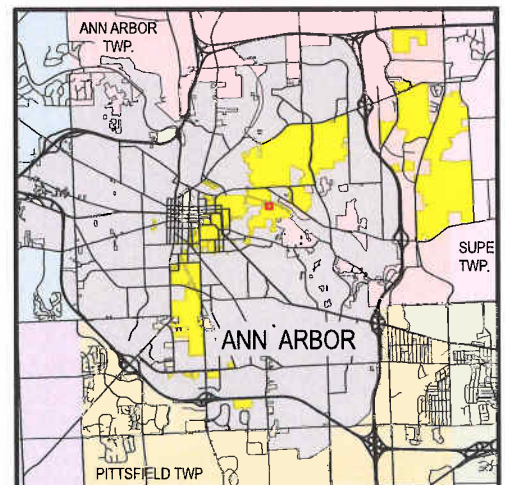
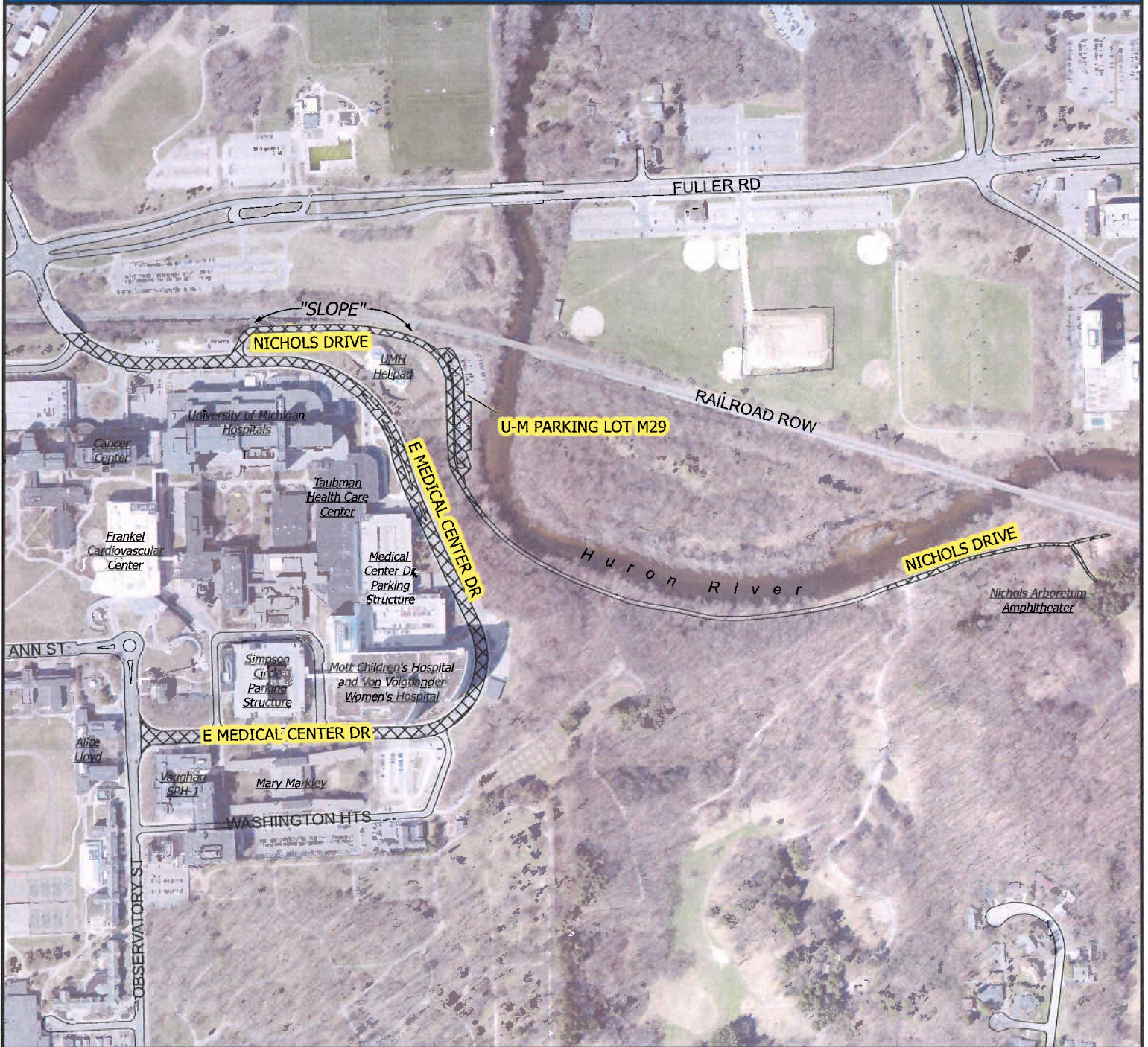


Exhibit D ACCESS ROUTE



Legend

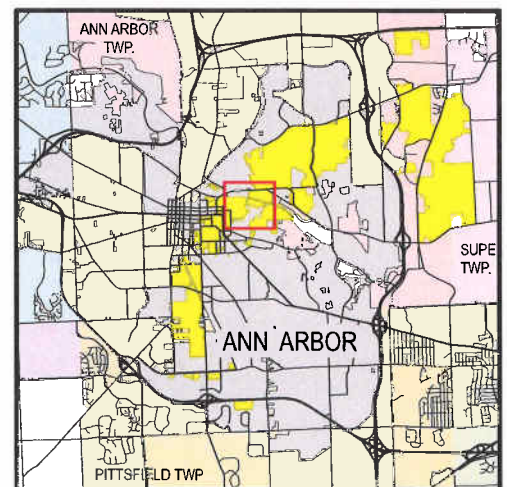
Access Route



0 275 550 1,100 Feet

Michigan State Plane Coordinate System, South Zone
 Map Units: International Survey Feet
 Horizontal Datum: NAD 1983
 Digital orthophoto images based on 2014 aerial photography

Notes:



ACKNOWLEDGMENT OF ACCESS AGREEMENT

I, John Thompson, confirm that I have read the Property Access Agreement (the "Agreement") entered into by THE REGENTS OF THE UNIVERSITY OF MICHIGAN and the CITY OF ANN ARBOR, dated _____, 2016. I understand the terms of the Agreement and agree to comply with the terms of the Agreement, including the terms regarding indemnification and insurance as if I were an original party to the Agreement.

RECEIPT AND ACCEPTANCE ACKNOWLEDGED

LiquiForce Services (USA) Inc (Name of Contractor)

By:  _____

Title: Technical Representative

Date: 11/14/2016

COORDINATION AND COOPERATION WITH OTHERS AND WORK BY OTHERS

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
COORDINATION AND COOPERATION WITH OTHERS AND WORK BY OTHERS

Fishbeck:DD

1 of 2

4/22/2020

a. General.- The Contractor is reminded of, and shall comply with, the requirements of Section 104.08 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, "Cooperation by the Contractor."

The Contractor shall directly coordinate their work with individual City of Ann Arbor (City) Departments/Divisions/Units and appropriate University of Michigan (U of M) Departments.

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 Drawings.

Contractor shall coordinate with Utility Owners, in accordance with Detailed Specification "Utilities Coordination."

b. Owner/University of Michigan Occupancy During Construction.- The U of M Matthaei Botanical Gardens and Nichols Arboretum (MBGNA) Director and field staff will occupy and/or utilize the project site during the life of this contract for conducting normal maintenance and operations. Residents of the MBGNA Caretaker's House will utilize Nichols Drive for access.

The University of Michigan Hospital Complex will continue the use of Nichols Drive and Lot M29 for valet and permit parking as described in the Maintenance of Traffic (MOT) plans and elsewhere in the specifications.

The Contractor shall cooperate with the U of M departments to minimize conflict between their work operations and the day-to-day activities within Nichols Arboretum, the U of M Hospital Complex, and the surrounding area.

c. Access Agreement/Private Easements.- The City has obtained the necessary easements and access agreements required for construction within property owned by U of M and private residences. The Contractor shall conduct their operations in these areas in such a manner as to comply with the conditions set forth in said easement agreements. The Contractor shall limit their operations to the time of year, time of week, or time of day required on certain easements, as noted in the easements, agreements, and Contract Documents. Electronic copies of easements and access agreements are on file with the City and can be obtained by contacting:

COORDINATION AND COOPERATION WITH OTHERS AND WORK BY OTHERS

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
COORDINATION AND COOPERATION WITH OTHERS AND WORK BY OTHERS**

Fishbeck:DD

2 of 2

4/22/2020

City of Ann Arbor
Public Services Area - Project Management Services Unit
301 East Huron Street; P.O. Box 8647
Ann Arbor, Michigan 48107-8647

Brian Slizewski, PE
Senior Project Manager
(734) 794-6410 ext. 43607
BSlizewski@a2gov.org

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

Costs for complying with the requirements of this Detailed Specification, including the Contractor accomplishing all conditions noted in the easement and access agreements, will not be paid for separately, but shall be included in the bid price of the contract pay item "General Conditions."

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

Fishbeck:DD

1 of 5

5/22/2020

a. Description.- This work shall consist of protecting and maintaining vehicular and pedestrian traffic in accordance with Sections 104.11, 812, and 922 of the 2012 edition of the Michigan Department of Transportation (MDOT) 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 (City) Public Services Department Standard Specifications, except as modified herein.

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

b. Materials.- The materials and equipment shall meet the requirements specified in the sections designated above of the 2012 edition of the MDOT Standard Specifications for Construction, the 2011 MMUTCD, and all specification requirements contained in these Contract Documents.

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.

The Contractor shall furnish and operate Lighted Plastic Drums; Type III Barricades; and Type B Temporary Signs as directed by the Engineer.

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

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

c. Maintenance of Traffic - General.- The Contractor shall maintain traffic such that no vehicle or pedestrian shall be able to enter active work zones or staging areas.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

Fishbeck:DD

2 of 5

5/22/2020

The Contractor will be permitted to close one lane on Washington Heights while performing working on Sewer Segment 1. Two-week notice is required prior to beginning work. All work on Sewer Segment 1 shall be performed at night. The Contractor will be permitted to stage traffic control devices during daytime working hours; however, lane closures shall not occur until the beginning of the designated night work hours as defined in Detailed Specification "Hours of Work." The lane shall be reopened to traffic at the end of the working hours. Traffic control devices may remain staged as approved by the Engineer for use the following evening. All traffic control devices must be removed upon completion of the work.

Two weeks prior to the start of any work the Contractor shall post Construction Notification signs at each of the four entrances to Nichols Arboretum. Three of the entrances will be made available to the Contractor during the various stages of the work. The Washington Heights entrance to Nichols Arboretum shall not be used by the Contractor at any time for any reason.

Public notification signage shall meet the following minimum requirements:

1. Signs shall be constructed of $\frac{3}{4}$ marine grade plywood.
2. Freestanding without the use of postholes.
3. Size shall vary based upon entrance location. For bidding purposes use 4 feet x 8 feet at all four locations (signs will not exceed this size).

4. A drawing of each sign shall be submitted to the Engineer for approval. Minimum information on each sign shall include but not be limited to the following:

- A. Project Name.
- B. Project Owner (City of Ann Arbor).
- C. Contractor Name.
- D. Emergency Contact Phone Number.
- E. Start Date.
- F. Estimated Completion Date.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

Fishbeck:DD

3 of 5

5/22/2020

G. Special instructions/access restrictions at the specific entrance

5. In addition to the signs, the Contractor shall provide 11-inch x 17-inch laminated copies of the information on each sign for placement in informational kiosks.

The Contractor will be permitted to use the Geddes Avenue entrance when performing work on Sewer Segment 2. Two-week advance notice is required for use of this entrance.

Access to the prairie area of the Arboretum is available from Riverview Court for work on Sewer Segments 7 and 8. Access to the prairie from Nichols Drive is also available; however, there is a significant grade change located at the amphitheater immediately north of the prairie.

For work in the main valley of the Arboretum the only available access is from Caretaker Drive. This is for Sewer Segments 4 and 6 and the downstream sections of Sewer Segments 2, 3, and 5. Caretaker Drive is the only route for emergency vehicles to access the Caretaker's House. As such, it cannot be blocked by the Contractor's operations.

Caretaker Drive can only be accessed from Nichols Drive. Nichols Drive is used for valet parking, Arboretum guest parking, and access to Lot M29. Lot M29 shall remain open for the public, including U of M valet, and permit parking along Nichols Drive. The Contractor shall always maintain safe local vehicular and pedestrian access to Lot M29. Contractor's workers shall not use Nichols Drive or Lot M29 for parking personal vehicles. The City will provide personal vehicle parking for the Contractor's workforce at the Fuller Park parking lot. The Contractor will be required to shuttle personnel back and forth between the parking lot and the work site.

The Contractor shall limit use of the premises and maintain access to the public, the U of M Matthaei Botanical Gardens and Nichols Arboretum Director/Grounds Department, and emergency vehicles to the Caretaker's House, as described in Detailed Specification "Working Space."

Two weeks prior to beginning work inside the Arboretum, the Contractor shall place temporary construction fencing to establish the work zone. The work zone shall be reviewed by the Engineer and Arboretum staff. Any required revisions to the work zone

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

Fishbeck:DD

4 of 5

5/22/2020

based upon Engineer or Arboretum staff comments must be completed prior to the start of work. Work zones inside the Arboretum must be removed upon completion the work.

For lane closures on residential streets: Geddes Heights Drive, East & West Ridgeway Streets, Harvard Place, Riverview Court, and Pineview Court, traffic control devices shall not be staged more than 48 hours in advance of the work. All traffic control devices shall be removed upon completion of the work.

Temporary closure of the center lane of Fuller Street at Glen Court is permitted for installation, maintenance, and removal of flow diversion devices. This work, and subsequent lane closures and obstructions, shall be coordinated with the City and U of M, providing a minimum of 7 days advance notice. The Contractor shall coordinate with the City to obtain lane closure permits as required. Lane closure permits shall be obtained by the Contractor from the Project Management Services Unit at least 48 hours in advance of any proposed lane closing. The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer with covers meeting the requirements of Section 812.03.D.2 of the 2012 edition of the MDOT Standard Specifications for Construction. All temporary traffic control devices associated with this closure shall be installed after 9:00 a.m. and removed before 3:30 p.m. of the same day.

During times that it may become necessary to temporarily obstruct local traffic on Fuller Street and Glen Court to perform the work, the Contractor shall provide traffic regulator control in conformance with Chapter 6E, Sections 6E.01 through 6E.08, of the MMUTCD. A minimum of two traffic control regulators are required. The cost of traffic regulator control shall be included in the contract pay item "Minor Traf Devices, Modified."

The cost of the lane closure, including obtaining the permit, temporarily covering existing signs as directed, maintaining pedestrian traffic, and maintaining and relocating traffic control devices will not be paid for separately, but shall be deemed to be included in the cost of the item of work "Minor Traf Devices, Modified."

The Contractor shall coordinate their operations with all utilities, Contractors, and/or subcontractors performing work on this and other projects within, or adjacent to, the project site.

The hours of work shall be as defined in Detailed Specifications "Hours of Work," "Construction Sequencing," and "Project Schedule."

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
MAINTENANCE OF TRAFFIC

Fishbeck:DD

5 of 5

5/22/2020

The Contractor shall use quantities of dust palliative and maintenance aggregate 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 and emergency access. The cost for the use of dust palliative and maintenance aggregate, as required and directed by the Engineer for maintenance of traffic and local access, shall be included in contract pay item "General Conditions," and will not be paid for separately.

All traffic control devices shall be in place prior to beginning the work. The Contractor shall furnish, erect, maintain, and upon completion of the work, remove any and all traffic control devices utilized on the project prior to final inspection and acceptance as described in Detailed Specification "Final Acceptance."

d. Measurement and Payment.- 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>Contract Pay Item</u>	<u>Pay Unit</u>
Minor Traf Devices, Modified.....	Lump Sum
Sewer Segment _ MOT - Sign, Type B, Temp, Prismatic, Furn.....	SF
Sewer Segment _ MOT - Sign, Type B, Temp, Prismatic, Oper	SF
Sewer Segment _ MOT – Sign Cover	Each
Sewer Segment _ MOT - Barricade, Type II, High Intensity, Lighted, Furn.....	Each
Sewer Segment _ MOT - Barricade, Type II, High Intensity, Lighted, Oper	Each
Sewer Segment _ MOT - Barricade, Type III, High Intensity, Lighted, Furn.....	Each
Sewer Segment _ MOT - Barricade, Type III, High Intensity, Lighted, Oper	Each
Sewer Segment _ MOT – Channelizing Device, 42-inch, Furn	Each
Sewer Segment _ MOT – Channelizing Device, 42-inch, Oper.....	Each
Sewer Segment _ MOT – Lighted Arrow, Type C, Furn	Each
Sewer Segment _ MOT – Lighted Arrow, Type C, Oper	Each
Public Notification Signage.....	Each

The unit price as bid for these items of work shall include all labor, material, and equipment costs to furnish, operate, and remove the items from the site when no longer needed as detailed herein.

The estimated quantities for maintaining traffic are based on the maintenance of traffic (MOT) plans. Any additional signing, traffic control devices, or the like, required to expedite the construction, or required given Contractor's change in staging, beyond that which is specified, shall be at the Contractor's sole expense.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

1 of 9

4/22/2020

a. General.- This Detailed Specification does not describe the full range of materials and processes needed to complete the work under this Contract. It is intended to indicate major project requirements and assist the Contractor in developing, for the review and approval of the Engineer, the Progress Schedule for the project. It is the Contractor's responsibility to review this sequence and all other supporting Drawings and Detailed Specifications to determine, on their own, prior to bid submittal, a detailed construction process that follows this sequence. If the Contractor determines they cannot perform the work in this sequence, as indicated in the Drawings and all other requirements indicated in the Contract Documents, they shall immediately present an alternative construction sequence and approach to the Engineer as part of their bid submittal. The alternative construction sequence will be subject to review and approval by the Engineer. No additional payment shall be provided to the Contractor due to changes to the construction sequence.

The Contractor is required to comply with and sign the Access Agreement established between the City of Ann Arbor and the University of Michigan. The Contractor's detailed Progress Schedule must be submitted to and approved by the Engineer and U of M before the agreement can be finalized. The agreement must be in place prior to the Preconstruction Meeting. The Engineer will review the Progress Schedule and ask for any needed revisions in order to bring the Progress Schedule into conformance with the Contract Documents. 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 indicated on the Progress Schedule.

b. Sequence of Construction.- Unless an alternative sequence is requested in writing by the Contractor, and approved by the Engineer, the work shall be performed in the order described below. This sequence of construction is intended to maximize work progress while minimizing damage in, on, and around the working areas of the project.

Some of the work tasks listed below may be performed concurrently, at the discretion of the Contractor, and as approved by the Engineer. Additional sequencing requirements may be specified elsewhere within the Contract Documents and/or Drawings. The work to be performed includes, but is not limited to, the following:

1. Audiovisual recording of the entire project site as well as East Medical Center Drive, Geddes Heights Drive, Nichols Drive, Ridgeway Street, Regent Drive, Riverview Court, the entire length of Nichols Drive and the parking lot (Lot M29), Fuller Park, the route from the work site to the hydrant at Fuller Park and back, and

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

2 of 9

4/22/2020

the intersection of Glen Court and Fuller Street, in accordance with Detailed Specification "Audiovisual Recording" and elsewhere in the Contract Documents.

2. Implementation of the required temporary traffic control devices and trail closures in accordance with the Drawings, as detailed in the specifications, and as directed by the Engineer.

3. Implementation of soil erosion and sedimentation control (SESC) measures as indicated on the Drawings, as detailed in the specifications, and as directed by the Engineer. The Contractor shall install only those devices necessary to perform the work of the particular stage or to meet the appropriate federal, state, or local regulations.

4. Install the tree and wetland protection fencing and other construction fencing as indicated in the Drawings.

5. Perform sewer cleaning, televising and CIPP lining per the following recommended sequence:

FALL 2020

Sewer Segment 2 – Part 1 (Plan Sheet C-10)

1. Two-week notice is required for closing any trail. All bypass pump piping that crosses trails must be buried.
 2. Clean and televise 8-inch sanitary sewer from MH 71-69198 (Geddes Heights Drive) to MH 71-70032 (Arboretum Main Valley).
 3. Verify lateral locations based upon sewer video recordings and field investigations. Determine the bypass pumping location that will minimize disruption of service.
 4. Coordinate water use restrictions with residents on Geddes Heights Drive.
 5. Pump and haul flows entering MH 71-69198.
 - a. If necessary, flows can be bypass pumped from MH 71-69198 to MH 71-70031. Manhole casting and cone removal may be necessary to provide adequate working area.
 6. CIPP line 8-inch sanitary sewer from MH 71-69198 to MH 71-70034.
 7. CIPP line 8-inch sanitary sewer from MH 71-70035 to MH 71-70034.
 8. CIPP line 8-inch sanitary sewer from MH 71-70035 to MH 71-70038.
- Note: There are two sanitary laterals that enter MH 71-70035.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

3 of 9

4/22/2020

9. Clean and televise 8-inch sanitary sewer from MH 71-70027 (Harvard Place) to MH 71-70032 (Arboretum Main Valley).
10. Verify lateral connections based upon sewer video recordings and field investigations. Determine the bypass pumping location that will minimize disruption of service.
11. Coordinate water use restrictions with residents on Harvard Place.
12. Pump and haul flows entering MH 71-70026 to MH 71-70031 and flows entering MH 71-70028 to MH 71-70031.
 - a. Based upon lateral locations the Contractor may be required to bypass pump flows from MH 71-7027 to MH 71-70032. Manhole casting and cone removal may be necessary to provide adequate working area.
13. CIPP line 8-inch sanitary sewer from MH 71-70027 through MH 71-70042 to MH 71-70039.

Sewer Segment 3 (Plan Sheet C-10)

1. Clean and televise 8-inch sanitary sewer from MH 71-70020 (West Ridgeway Street) to MH 71-70038 (Arboretum Main Valley).
2. Verify lateral connections based upon sewer video recordings and field investigations. Determine the bypass pumping location that will minimize disruption of service.
3. Coordinate water use restrictions with residents on West Ridgeway Street.
4. Pump and haul flows entering MH 71-70021 and MH 71-70020.
 - a. Based upon lateral locations the Contractor may be required to bypass flow from MH 71-7020 to MH 71-70032. Manhole casting and cone removal may be necessary to provide adequate working area.
5. CIPP line 8-inch sanitary sewer from MH 71-70020 to MH 71-70038.
 - a. Contractor shall review the existing sewer slope, access restrictions, and sewer deflections to determine the direction of lining and lining segment lengths.
6. Clean and televise 8-inch sanitary sewer from MH 71-70023 (East Ridgeway Street) to MH 71-70039 (Arboretum Main Valley).
7. Verify lateral connections based upon sewer video recordings and field investigations. Determine the bypass pumping location that will minimize disruption of service.
8. Coordinate water use restrictions with residents on East Ridgeway Street.
9. Pump and haul flows entering MH 71-70057 and MH 71-70023.
 - a. Based upon lateral locations the Contractor may be required to bypass flow from MH 71-7023 to MH 71-70032. Manhole casting and cone removal may be necessary to provide adequate working area.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

4 of 9

4/22/2020

10. CIPP line 8-inch sanitary sewer from MH 71-70023 to MH 71-70039.
 - a. Contractor shall review the existing sewer slope, access restrictions, and sewer deflections to determine the direction of lining and lining segment lengths.

Sewer Segment 2 – Part 2 (Plan Sheet C-11)

1. Re-clean from MH 71-70038 to MH 71-70032 and MH 71-70039 to MH 71-70032 as necessary to facilitate lining operations.
2. Re-establish bypass flow operations used for Sewer Segments 2 and 3.
3. CIPP line 8-inch sanitary sewer from MH 71-70032 to MH 71-70038.
4. CIPP line 8-inch sanitary sewer from MH 71-70032 to MH 71-70039.

Sewer Segment 5 – Part 1 (Plan Sheet C-18)

1. Coordinate with property owner and Arboretum staff to develop the least invasive means to access MH 71-69943 with the minimal equipment required to perform the work.
2. Clean and televise 8-inch sanitary sewer from MH 71-69945 (Regent Drive) to MH 71-70046 (Arboretum Main Valley).
3. Verify lateral connections based upon sewer video recordings and field investigations. Determine the bypass pumping location that will minimize disruption of service.
4. Coordinate water use restrictions with residents on Regent Drive.
5. Bypass flows entering MH 71-69946 to MH 71-70046.
 - a. Based upon lateral locations the Contractor may be required to bypass flow from MH 71-69945 to MH 71-70046. Manhole casting and cone removal may be necessary to provide adequate working area.
6. CIPP line 8-inch sanitary sewer from MH 71-69945 to MH 71-69944 to MH 71-69943.

Note: MH 71-69944 is a drop connection.
7. CIPP line 8-inch sanitary sewer from MH 71-69943 to MH 71-69944.
8. CIPP line 8-inch sanitary sewer from MH 71-69942 to MH 71-69943.
9. CIPP line 8-inch sanitary sewer from MH 71-69942 to MH 71-70015.
10. CIPP line 8-inch sanitary sewer from MH 71-69898 to MH 71-70015.
11. CIPP line 8-inch sanitary sewer from MH 71-69898 to MH 71-70063.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

5 of 9

4/22/2020

WINTER 2020- 2021**Sewer Segment 4 – Part 1, Phase I (Plan Sheet C-16) & Phase II (Plan Sheet C-17)**

1. Clean and televise 8-inch sanitary sewer from MH 71-70032 to MH 71-70046.
2. Bypass flows entering MH 71-70038 and MH 71-70039 to MH 71-70029 (Phase I).
3. CIPP line 8-inch sanitary sewer from MH 71-70032 to MH 71-70031. (Phase I)
4. Bypass flows entering MH 71-70032 to MH 71-70046 (Phase II).
5. CIPP line 8-inch sanitary sewer from MH 71-70031 to MH 71-70045 (Phase II).
 - a. Note: The Contractor may CIPP line individual MH to MH segments or multiple MH through MH segments. The Contractor is not required to line from MH 71-70031 to MH 71-70045 in one set-up. However, the entire work zone must be established and maintained until all work is completed.

Sewer Segment 4 – Part 2, Sewer Segment 5 – Part 2 & Sewer Segment 6 – Part 1 (Plan Sheet C-19)

1. Construct MH access pad at MH 71-69899.
2. Clean and televise 8-inch sanitary sewer from MH 71-70046 to MH 71-69899. Re-clean from MH 71-70045 to MH 71-70046 and from MH 71-70063 to MH 71-70046 as necessary to facilitate lining operations.
3. Bypass flows entering MH 71-69898 to MH 71-69894.
4. Bypass flows entering MH 71-70044 to MH 71-69894.
 Note: MH 71-69894 cannot be accessed with a vehicle. Contractor is permitted to bypass to MH 71-69899 if there is sufficient working space to do so during lining operations.
5. CIPP line 8-inch sanitary sewer from MH 71-70046 to MH 71-70045.
6. CIPP line 8-inch sanitary sewer from MH 71-70046 to MH 71-70063.
7. CIPP line 8-inch sanitary sewer from MH 71-70046 to MH 71-69899.

Sewer Segment 6 – Part 2 (Plan Sheet C-20)

1. Construct MH access pad at MH 71-69900.
2. Establish interceptor bypass.
3. Clean and televise 8-inch sanitary sewer from MH 71-69899 to MH 71-69895.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

6 of 9

4/22/2020

4. Notify Engineer of findings regarding buried fittings in sewer segments.
5. Bypass flows entering MH 71-70046 to MH 71-69896.
6. Bypass flows entering MH 71-69893 to MH 71-69896.
7. CIPP line 8-inch sanitary sewer from MH 71-69899 to MH 71-69894.
8. CIPP line 8-inch sanitary sewer from MH 7169900 to MH 71-69894.
9. CIPP line 8-inch sanitary sewer from MH 71-69900 to MH 69895.
 Note: MH 71-69894 cannot be accessed with a vehicle.

Sewer Segments 7 (Plan Sheet C-27 & C-28) & Sewer Segment 8 (Plan Sheet C-28)

1. Maintain interceptor bypass.
2. See plans for access restrictions at MH 71-69896.
3. Clean and televise 36-inch sanitary sewer from MH 71-69896 to MH 71-70073.
4. Notify Engineer of findings regarding buried fitting in sewer segment.
5. Clean and televise dual 24-inch sanitary sewers from MH 71-70073 to MH 71-70071.
6. Bypass flows from MH 71-69895 to MH 71-70072.
7. Bypass flows from MH 71-70012 to MH 71-70072.
8. CIPP line 36-inch sanitary sewer from MH 71-69891 to MH 71-69896.
9. CIPP line 36-inch sanitary sewer from MH 71-69891 to MH 71-69941.
10. Bypass flows from MH 71-69897 to MH 71-70072.
11. CIPP line 36-inch sanitary sewer from MH 71-69941 to MH 71-70014
12. Bypass flows from MH 71-70074 to MH 71-70072.
13. CIPP line 36-inch sanitary sewer from MH 71-70014 to MH 71-70075.
14. CIPP line 36-inch sanitary sewer from MH 71-70075 to MH 71-70073.
15. Bypass flows from MH 71-69919 to MH 71-70072.
 - a. Contractor can maintain bypass pumping set up for 36-inch CIPP lining or bypass flow from MH 71-70075 to MH 71-70072.
16. CIPP line dual 24-inch sanitary sewers from MH 70071 to MH 71-70073.

Sewer Segment 1 (Plan Sheet C-6)

1. Protect pedestrian traffic from tripping hazards. Night work shall be required due to heavy pedestrian traffic. Two-week notice is required prior to starting work.
2. Clean and televise 10-inch sanitary sewer from MH 71-69220 to MH 71-69271.
3. Verify lateral locations based upon sewer video recordings.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

7 of 9

4/22/2020

4. Coordinate water use restrictions/timing of work with Ronald McDonald House and U of M.
 5. Bypass flows entering MH 71-69222 and MH 71-69221 to MH 71-69242 (Phase I).
 - a. If required due to coordination with Ronald McDonald House, the Contractor may be required to bypass flows from MH 71-69220 to MH 71-69242. Manhole casting and cone removal may be necessary to provide adequate working area.
 6. CIPP line 10-inch sanitary sewer from MH 71-69220 to MH 71-69243.
 7. Bypass flows entering MH 71-69219 and MH 71-69252 to MH 71-70050 (Phase II).
 8. CIPP line 10-inch sanitary sewer from MH 71-69243 to MH 71-69271.
6. Perform clean-up and required restoration of the project site in accordance with the Drawings, as detailed in the specifications, and as directed by the Engineer.
7. Upon completion of the work, remove all temporary traffic control devices and SESC measures.

c. Work Restrictions.- The Contractor shall plan their work in accordance with the requirements and restrictions herein, as described in other relevant Detailed Specifications, as indicated on the Drawings, and as directed by the Engineer.

1. The primary Contractor access to the site shall be the site from East Medical Center Drive through Nichols Drive, and based on the following requirements:

A. The hours of work shall be as described in Detailed Specification “Hours of Work.”

B. The Contractor shall note that one side of Nichols Drive is used for valet and permit parking, and Lot M29 is used for permit parking, by the U of M Hospital Complex. U of M intends to maintain use of these parking spaces during construction. The Contractor shall limit the size of their trucks to those that can access Nichols Drive safely and not damage the parked vehicles. The cost of any damage to vehicles along Nichols Drive shall be the Contractor’s sole responsibility.

C. Should the Contractor or subcontractor work efforts require large trucks (intermediate or interstate semitrailers) which, in turn, would require the loss of

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

8 of 9

4/22/2020

the valet and permit parking spaces along Nichols Drive, the Contractor shall submit a request for clearing of the parking spaces to the Engineer and U of M, providing a minimum of 7 days advance notice. The approved clearing of the parking spaces along Nichols Drive shall be limited to the evening/overnight hours of 5:00 p.m. to 8:00 a.m. Monday through Sunday only. The request for parking space clearing shall be submitted as part of original progress schedule.

D. At no time shall the Contractor be allowed to use the parking spaces in Lot M29.

E. Contractor will be provided parking spaces for workers in the Fuller Park parking lot. Contractor's workers shall not park along Nichols Drive. Contractor is required to shuttle personnel from the Fuller Park parking lot to the work areas.

F. Any changes to the Contractor's progress schedule resulting in revisions to previously approved dates for access along Nichols Drive shall be submitted to the Engineer and provide a minimum of 5 working days' notice for re-approval from the Engineer and U of M.

2. The Contractor shall maintain public pedestrian and vehicular access within the Arboretum in accordance with Detailed Specifications "Working Space" and "Maintenance of Traffic," as indicated on the Drawings, and as directed by the Engineer. All trails and drives indicated to remain open to pedestrian traffic shall be maintained to allow access at all times.

3. The Contractor shall maintain emergency vehicular access along Nichols Drive and to the Caretaker's House at all times. In the event that work operations entirely block Nichols Drive, the Contractor shall be expected to cease or alter operations as required to accommodate emergency vehicular access to the Caretaker's House within 10 minutes of being notified of said emergency.

4. Work zones on public streets shall not be set more than 24 hours in advance of the work. Barricades must be cleared, including removal of temporary traffic control devices, within 24 hours of completion of the work.

5. Work zones within the Nichols Arboretum shall be set up 2 weeks in advance of the work. Work zones shall be erected using temporary fencing (Standard 4-foot tall orange plastic safety fence or Engineer approved equal) and approved by the Engineer and Arboretum staff. Once established, work zones shall not be modified

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING

Fishbeck:DD

9 of 9

4/22/2020

without Engineer approval. Work zones must be removed as directed by the Engineer upon completion of the work.

6. The Contractor shall at no time obstruct any part of East Medical Center Drive, unless as approved by the Engineer and U of M.

d. Lighting Requirements for Sewer Lining Work.- Where sewer lining work at night is required and approved in advance by the Engineer, the night work shall be lighted to an average intensity of 10 foot-candles minimum. Sufficient light sources shall be provided to achieve this illumination requirement. The lighting shall allow the inspector to clearly see and inspect all work and operations. Lighting systems may be fixed, portable, or equipment mounted. A power source shall be supplied by the Contractor with sufficient capacity to operate the lighting system. The Engineer shall suspend all night work except for traffic control if lighting is inadequate on any nighttime work operation.

The lighting system should be directed at the work site only, shall be turned off when not needed, and shall not be left on overnight un-manned.

e. Measurement and Payment.- All costs for complying with the requirements of this Detailed Specification will not be paid for separately, but shall be included in the bid price of the affected items of work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIOVISUAL RECORDING

Fishbeck:DD

1 of 4

4/22/2020

a. Description.- This work shall include providing a recording of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein.

The audiovisual recording shall be:

1. Of professional quality, providing a clear and accurate audio and visual record of existing conditions.
2. Prepared during the 3-week period immediately prior to the Preconstruction Meeting.
3. Furnished to the Engineer a minimum of 2 weeks prior to bringing any materials or equipment within the areas described in this Detailed Specification.
4. Furnished to the Engineer either at, or prior to, the Preconstruction Meeting.
5. Carried out under the supervision of the Engineer.

The Contractor shall furnish 2 copies of the completed recording to the Engineer at, or prior to, the Preconstruction Meeting. An index of the recording, which will enable any area of the project to be easily found on the recording, shall be included. The Contractor shall retain a third copy of the recording for their own use.

Any portion of the recording determined by the Engineer to be unacceptable for the documentation of existing conditions shall be recorded again, at the Contractor's sole expense, and submitted to the Engineer prior to mobilizing onto the site.

b. Production.- The audiovisual recording shall be completed in accordance with the following minimum requirements:

1. **DVD Format/No Editing.-** The audiovisual recording shall be performed using equipment that allows audio and visual information to be recorded simultaneously and in color. The recording shall be provided on compact discs in DVD format. The quality of the recording shall be equal to or better than the standard in the industry. The recording shall not be edited.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIOVISUAL RECORDING

Fishbeck:DD

2 of 4

4/22/2020

2. **Perspective/Speed/Pan/Zoom.**- To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 12 feet and the recording must proceed in the general direction of travel at a speed not to exceed 30 feet per minute (0.34 miles per hour). 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 and date stamp and digital annotation capabilities. The final copies of the recording 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 shall be included in the lower half of the frame in standard station format (i.e. 1+00). Below the stationing, periodic information is to be shown, including project name, name of area shown, direction of travel, viewing direction, etc.

On streets or in areas where there is no project stationing, assumed stationing shall be used, starting with 0+00 and progressing from west to east or from north to south.

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 recording route. Additional audio commentary shall be provided as necessary during the recording to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.

5. **Visibility/Ground Cover.**- The recording shall be performed during a time of good visibility. The recording shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being recorded.

c. **Coverage.**- The audiovisual recording coverage shall include the following:

1. **General Criteria.**- This general criteria shall apply to all recording 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 or through which they will be transported. The recording shall extend an additional 50 feet outside of all areas. The recording 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIOVISUAL RECORDING

Fishbeck:DD

3 of 4

4/22/2020

2. **Private Property.**- Record all private property that may be utilized by the Contractor in conjunction with this project. These project areas must be disclosed by the Contractor prior to using them for the work of this project.

3. **Road Construction Area.**- The recording coverage shall:

A. Extend to 50 feet outside of the right-of-way and easements area as indicated on the Drawings.

B. Extend 50 feet outside the construction limits on all streets, including side streets.

C. Both sides of each street shall be recorded

4. **Offsite Water Source Route/Fuller Street/Glen Court Route.**- The entire route to/from the offsite water source at Fuller Park and to/from the Fuller Street/Glen Court intersection shall be recorded as indicated in this Detailed Specification, except as modified below:

A. The recording must proceed in the general direction of travel at a speed not exceeding 30 feet per minute (0.34 miles per hour).

B. The coverage area shall include the street and not go beyond the curb except in areas where there is a fair possibility that the detoured or construction traffic will drive over the curb, such as at intersections.

C. The recording shall focus in particular at sidewalk ramps and other features likely to have been damaged or likely to be damaged as a result of existing traffic, temporary detoured traffic, and/or construction traffic. In these areas, recording may need to proceed much more slowly.

Only the side of street with the detoured traffic must be recorded. However, the Contractor is advised that portions of the detour routes may operate in opposite directions at different times. In these cases, both sides of the street shall be recorded separately.

5. **Private Property Bordering the Project Limits or Work Areas.**- Record all areas bordering the project where work is scheduled to occur or where construction

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIOVISUAL RECORDING

Fishbeck:DD

4 of 4

4/22/2020

traffic could damage the private property, including along E. Medical Center Drive, the entire length of Nichols Drive, Lot M29, Fuller Street/Glen Court intersection, Fuller Park, and the route to and from the project site to the Fuller Street/Glen Court intersection and Fuller Park. This is to include buildings, hydrants, pavements, curbs, driveways, decks, landscaping, trees, and all other similar features.

6. **Other Areas.-** The Contractor shall record, at their sole expense, other areas where, in their 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 recording of other minor areas not specified herein at the Contractor's sole expense.

d. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract pay item:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Audiovisual Recording	Lump Sum

Audiovisual Recording shall include all labor, equipment, and materials required to perform the recording and to provide the finished recording the Engineer.

Payment will be made for Audiovisual Recording following the review and acceptance of the recording by the Engineer. Within 21 days following the receipt of the recording, the Engineer will either accept it and authorize payment, or require that any discrepancies in the recording be addressed prior to making payment.

LAND MONUMENTS, PROPERTY CORNERS, AND MARKERS 107B

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
LAND MONUMENTS, PROPERTY CORNERS, AND MARKERS**

AA:MGN

1 of 1

10/04/16

It shall be the Contractor's responsibility to take all necessary precautions not to disturb, move, or destroy any land monuments, property corners, or markers delineating the boundaries of property along or near the work.

The Contractor shall notify the Engineer of any land monuments, property corners, or markers that will be affected by the construction in sufficient time so they may be properly protected or witnessed for later replacement by the Engineer.

Land monuments, property corners, or markers unnecessarily disturbed, moved, or destroyed by the Contractor shall be replaced by the City of Ann Arbor (City), in accordance with the requirements of the appropriate agency and Public Act. All costs associated with this replacement shall be charged to the Contractor.

The Contractor shall be aware that there are section corners and other City geodetic control points within or near the project boundaries. The re-setting of these points, if disturbed, will require significant cost and work to restore them to their current level of accuracy. Consequently, if they are disturbed or damaged, in the sole opinion of the Engineer, the City will re-set them to a condition equal to, or better than, that which currently exists. The Contractor will be backcharged for all costs incurred in re-establishing these points including, but not limited to, time charged to coordinate the work amongst all involved parties, expenses associated with "blue-booking" the points, and all other related costs.

WORKER SAFETY AND SITE SECURITY

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR WORKER SAFETY AND SITE SECURITY

Fishbeck:DD

1 of 2

4/22/2020

a. General.- The Contractor shall carry out their operations and secure the site in strict accordance with the requirements of Section 104.07 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, "Contractor Obligations," all pertinent regulatory agencies, including, but not limited to, Occupational Safety and Health Administration (OSHA), Michigan Occupational Safety and Health Administration (MIOSHA), as well as all applicable manufacturer's safety requirements. The Contractor shall be aware that while all safety requirements are important, additional emphasis shall be placed upon the requirements for entering confined spaces and with the equipment being utilized for cured-in-place pipe (CIPP) installation.

The Contractor hereby guarantees to the City of Ann Arbor (City) that all materials, supplies, and equipment as listed in the Contract Documents meet the requirements, specifications, and standards as provided for under the Michigan Occupational Safety and Health Act of 1976, as from time to time amended, and in force at the time of bidding this project, and all other applicable federal, state, and local ordinances, statutes, and laws.

The Contractor shall perform all work in accordance with the Construction Safety Standards as adopted by the Michigan Department of Labor Construction Safety Standards for Occupational Health adopted by reference and cross reference under authority of Sections 19 and 21 Act No. 154 of the Public Act of 1974, as amended, being 408.1021 of the Michigan Compiled Laws.

b. Safety Plan.- At the Preconstruction Meeting and prior to beginning any work, the Contractor shall submit a proposed Safety Plan to the Engineer detailing their safety plan and procedures and identifying all competent persons. The plan shall include a description of a daily safety program for the job site, their safety program for confined space entry in accordance with current OSHA and MIOSHA requirements, and all emergency procedures to be implemented in the event of a safety incident. All work shall be performed in accordance with the Contractor's submitted Safety Plan.

Prior to entry into any confined space, the Contractor shall submit to the Engineer a copy of their "daily" entry permit in accordance with current OSHA and MIOSHA requirements.

WORKER SAFETY AND SITE SECURITY

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKER SAFETY AND SITE SECURITY**

Fishbeck:DD

2 of 2

4/22/2020

c. Safety Representative.- The Contractor shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

d. Confined Space.- The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work including, but not limited to, confined space entry. The Contractor, including subcontractors, shall comply with all applicable laws and regulations and the City's safety programs, if any, relating to safety.

e. Trenches, Excavations, and Sanitary Structures.- During non-working hours, the Contractor shall properly secure any open trench, excavation, or sanitary structure with protective fencing and temporary cover(s). Temporary covers over sanitary chambers shall be capable of withstanding the weight of a human and other wildlife such as deer.

f. Measurement and Payment.- All costs associated with meeting the requirements of this Detailed Specification will not be paid for separately but shall be included in the bid prices for the affected items of work as indicated on the bid form and in the Contract Documents.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
HOURS OF WORK

Fishbeck:DD

1 of 2

4/22/2020

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. Required Night Work.- Due to heavy pedestrian traffic during daylight hours, the sewer cleaning, televising, and CIPP lining of the 10-inch sanitary sewer (Segment 1) from MH 71-69220 to MH 71-69243 shall be performed at night. Working hours shall be from 10:00 PM to 7:00 AM. Noise levels during this period shall be reduced to 61 (dBA) per U of M regulations.

d. 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 both primary and secondary screening, noise absorption, and level II sound attenuation as required on equipment to meet the noise limitations set herein. Any "off-

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
HOURS OF WORK

Fishbeck:DD

2 of 2

4/22/2020

hour” work will require a temporary exemption from both the City of Ann Arbor City Administrator and the University of Michigan Executive Vice President and Chief Financial Officer or the Executive Vice President’s written designee. A temporary exemption may be granted in accordance with each respective entities’ code of ordinance.

e. 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE

Fishbeck:DD

1 of 6

4/22/2020

a. General.- The Contractor is reminded of, and shall comply with, the requirements of Section 104.08 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, "Cooperation by the Contractor."

b. Access Agreement.- The City of Ann Arbor has established a draft Access Agreement with the University of Michigan. The agreement must be finalized before any work may proceed. The Contractor's Construction Sequence and Project Schedule must be submitted and approved before the agreement can be finalized. The Contractor must sign and comply with all of the requirements of the Access Agreement.

c. Contractor Use of Premises.- The Contractor shall limit construction traffic and access to areas indicated on the Maintenance of Traffic (MOT) Drawings, as specified in Detailed Specification "Maintenance of Traffic," as specified herein, and as directed by the Engineer.

The Contractor shall limit use of premises to allow the University of Michigan (U of M) Matthaei Botanical Gardens and Nichols Arboretum (MBGNA) Director and field staff the full use of Nichols Arboretum (Arboretum) and not obstruct access to the surrounding U of M Hospital Complex facilities or perform their work activities in such a manner as to impact existing vehicular parking along Nichols Drive or Lot M29. The Contractor shall limit use of premises to maintain public access in accordance with Detailed Specifications "Construction Sequencing," "Maintenance of Traffic," the MOT Drawings, as directed by the Engineer, and as described below:

1. Public Access

A. The Contractor shall maintain public pedestrian access along the stairs from East Medical Center Drive to Lot M29, to Caretaker's Drive, and other trails within the Arboretum at all times as indicated on the MOT Drawings.

B. The Contractor shall maintain vehicular access along Nichols Drive from East Medical Center Drive, throughout Lot M29, and along Nichols Drive from Lot M29 into and throughout the Arboretum at all times as indicated on the MOT Drawings.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE**

Fishbeck:DD

2 of 6

4/22/2020

2. U of M

A. The Contractor shall maintain pedestrian and vehicular access along Nichols Drive from East Medical Center Drive through the Arboretum and to Caretaker's Drive at all times as indicated on the MOT Drawings.

B. The Contractor shall maintain pedestrian and vehicular access to the Caretaker's House via Caretaker's Drive at all times.

3. Emergency Vehicles to the Caretaker's House:

A. The Contractor shall maintain sufficient access for emergency vehicles along Nichols Drive and Caretaker's Drive to the Caretaker's House at all times.

B. The Contractor shall cooperate with the snow removal efforts of U of M in maintaining Nichols Drive and Caretaker's Drive. If necessary, the Contractor shall coordinate their work with that of snow removal crews to ensure that snow removal occurs as scheduled.

C. During periods of work that may entirely block Nichols Drive, the Contractor shall be prepared to cease, or alter, operations as required to accommodate emergency vehicular access to the Caretaker's House within 10 minutes, or less, of being notified of said emergency.

4. The Contractor shall at no time obstruct any part of East Medical Center Drive, unless as approved by U of M.

5. The Contractor shall always maintain vehicular and pedestrian access to the Ronald McDonald House building and parking lot.

6. The Contractor shall maintain one entrance to the M29 parking lot and provide advance warning signs for closure of the second entrance.

7. The Contractor shall always maintain ingress and egress to the existing residences located at the Geddes Heights Drive cul-de-sac.

8. The Contractor shall not completely close both sides of Ridgeway Street (east and west) at the same time.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE

Fishbeck:DD

3 of 6

4/22/2020

9. The Contractor shall always maintain ingress and egress to the existing residences located at the Regent Drive cul-de-sac.

10. The Contractor shall always maintain ingress and egress to the existing residences located at the Riverview Court cul-de-sac.

11. The Contractor shall always maintain one lane of traffic on Pineview Court.

12. Limit work zones, staging areas, and parking for construction vehicles to areas as indicated on the Drawings.

13. Where the Contract Documents identify certain site elements within the construction limits, such as sidewalks, drives, and trails that must be kept open for the public or the City's use during construction, the Contractor shall be responsible for protection and maintenance of such elements as well.

d. Contractor Staging.- The Contractor shall stage equipment in the work areas within the Arboretum as indicated on the Drawings. Additional areas within the Arboretum may be considered for Contractor staging upon written request to, and approval from, the Engineer. The Contractor shall be aware that lands to be used as a construction staging area within the project site are in short supply and, most probably, are not available. The Contractor shall be prepared to perform the work of this project without an owner-supplied, dedicated, construction staging area, or be prepared to obtain their own offsite construction staging area if necessary. The Contractor shall maintain pedestrian and emergency vehicle access through all work/staging areas as indicated on the Drawings and as described herein.

e. Materials Storage.- The Contractor may store materials in the work areas within the Arboretum as indicated on the Drawings. The Contractor shall store materials in an orderly arrangement allowing maximum access and unimpeded drainage and traffic. Material storage shall at no time impede pedestrian or emergency vehicle access along Nichols Drive or Caretaker's Drive. The storage of hazardous materials onsite shall not occur without the express approval of the Engineer.

f. Work Zones/Areas.- The Contractor shall confine work areas to those indicated on the Drawings and as described herein.

1. The following areas are available for Contractor sewer cleaning and televising operations:

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE

Fishbeck:DD

4 of 6

4/22/2020

A. Along the roadway and path areas that are isolated from pedestrian traffic by temporary fencing as shown on the Maintenance of Traffic Plans.

2. Use of the following areas is STRICTLY PROHIBITED:

A. Amphitheater lawn area (outside of the temporary fencing).

B. Main Valley (outside of the temporary fencing).

C. Prairie (outside of the temporary fencing).

D. The Contractor shall not move or relocate temporary fencing without approval of the Engineer.

3. Manholes/chambers:

A. Due to existing grades, specific manholes cannot be accessed with construction vehicles. These manholes are accessible for the following use by personnel with hand tools to perform the tasks listed:

MH 71-70033

MH 71-70034

MH 71-70036

MH 71-70037

MH 71-70040

MH 71-70041

MH 71-70042

MH 71-69944

MH 71-69894

MH 71-69896

MH 71-69271

(1) Manhole Assessment and Certification Program (MACP) Level 2 manhole inspection.

(2) Cutting out the liner from inside the manhole after CIPP lining.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE**

Fishbeck:DD

5 of 6

4/22/2020

B. MH 71-69943 is located behind 19 Regent Drive on private property within a City easement. This manhole must be accessed in order to clean, televise, and CIPP line from MH 71-69943 to MH 71-69944. The Contractor shall work with the property owner and Arboretum staff to develop the least invasive method to access the manhole with the minimal equipment necessary to complete the work.

C. All other manholes/chambers are available for cleaning, sewer televising, CIPP lining, and inspection.

D. The Contractor shall protect all manholes and surrounding areas and shall not damage or remove any trees.

E. The Contractor shall avoid wetlands when accessing manholes. At no time is the Contractor allowed to remove the frame and cover or any other portion of manholes located in wetlands.

g. Protection and Restoration.-

1. Protect trees and shrubs in the staging and storage areas as indicated on the Drawings.

2. The Contractor shall take care and protect, to the extent possible, sloped areas within work areas to manholes used for cleaning, televising, and/or lining operations.

3. Restore areas as described in Detailed Specification "Project Clean-Up and Restoration, Special."

4. Take all necessary measures to prevent spillage of fuel, oil, chemicals, and hazardous materials.

5. Provide secondary containment for diesel generators, equipment containing oil or grease, and storage of hazardous materials, in accordance with governing authorities or agencies.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING SPACE**

Fishbeck:DD

6 of 6

4/22/2020

6. In the case of any fuel, oil, chemical, or hazardous material spill, the Contractor shall notify the Engineer, U of M, and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Pollution Emergency Alerting System (PEAS) at (800) 292-4706. The Contractor shall be responsible for cleaning up the spill and remediating the site in accordance with EGLE requirements and as approved by the Engineer at no additional cost to the project.

7. Keep storage and work areas clean.

8. Do not allow accumulation of scrap, debris, waste material, and other items required for construction of the work.

h. Site.- The Contractor shall maintain the site in a neat and orderly condition, including keeping paved surfaces clean, meeting the approval of the Engineer and U of M representatives at all times.

The Contractor shall inspect the site daily, and more often if necessary, to ensure the site is maintained in a neat and orderly condition. The Contractor shall also inspect storage areas weekly, and more often if necessary, to ensure the storage areas are maintained in a neat and orderly condition.

If the Contractor fails to correct unsatisfactory conditions within 24 hours after due notification, the Engineer may arrange for such work to be performed by other means at the Contractor's expense.

Costs for this work will not be paid for separately but shall be included in the bid price of the contract pay item "General Conditions."

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WORKING IN THE RAIN**

Fishbeck:DD

1 of 1

4/22/2020

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 the plug installed for sanitary flow diversion from MH 71-71813. Plug shall be reinstalled upon cessation of the wet weather event and as approved by the Engineer. Contractor shall coordinate with the City of Ann Arbor as required to close the center lane of Fuller Street at Glen Court to remove and reinstall, the plug in MH 71-71813 in accordance with Detailed Specification "Sewer Flow Control."

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.

EXTENSION OF TIME, ADDITIONAL COMPENSATION 108A

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
EXTENSION OF TIME, ADDITIONAL COMPENSATION**

Fishbeck:DD

1 of 2

4/22/2020

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 2012 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 abovementioned 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.

EXTENSION OF TIME, ADDITIONAL COMPENSATION 108A

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
EXTENSION OF TIME, ADDITIONAL COMPENSATION**

Fishbeck:DD

2 of 2

4/22/2020

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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
TREE REMOVAL

Fishbeck:DD

1 of 2

5/22/2020

a. Description.- This work shall consist of removal of designated trees required to complete the work. 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.

Tree removal on the University of Michigan (U of M) property shall be performed by U of M. Tree removal within the Nichols Arboretum shall be performed by Arboretum staff. The Contractor is strictly prohibited from removing any trees in either of these locations. Trees identified for removal that are indicated on the Drawings have been approved by the City, U of M, and/or Nichols Arboretum for removal. No additional trees shall be removed as part of this project without the written permission of both the Engineer and U of M. The Contractor shall be aware that the removal of additional trees to facilitate the work may not be allowed. Additionally, granting permission to remove additional trees may require substantial additional time for review of the request and/or the permission may not be granted. If the Contractor requests removal of additional trees and the permission is not granted, the Contractor shall perform the work without the removal of the trees at no additional cost to the project. Further, an extension of contract time will not be granted for the period of time from when the request was made until such time the request was either granted or denied.

Tree removal on private property within existing easements shall be performed by the Contractor. The limits of tree removal shall be as directed by the Engineer. The Contractor must clearly mark the trees for removal at least 1 week prior to the date of their intended removal.

The removal and disposal of trees greater than 6 inches in diameter shall be paid for as indicated below. The cutting, removal, and disposal of trees less than 6 inches in diameter, bushes, brush, or the trimming of trees will not be paid for separately and shall be included in the item of work "General Conditions."

b. Construction Methods.-

1. Removal.- Cut and fell trees in a manner so as not to damage surrounding areas, fences, features, and adjacent trees designated to remain. Grub and remove stumps and roots. Backfill all resulting holes or excavations with Engineer approved material and dispose of all debris before ending the day's work.

Burning of any removed materials is strictly prohibited.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
TREE REMOVAL

Fishbeck:DD

2 of 2

5/22/2020

All trees removed as part of the work completed for this project shall be removed from the property unless otherwise requested by the City, U of M, Nichols Arboretum, or private property owner. All wood requested by the City or the respective property owner shall be cut into logs approximately 10 feet in length and placed at a location onsite as designated by the Engineer.

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

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Contingency - Tree, Rem, 6 inch to 18 inch	Each

The items of work listed above shall be paid for by the number of trees actually removed. The unit price for these items of work shall include all labor, material, and equipment costs to perform the work as detailed herein. It is the intent of this project that completion of the work be performed without any tree removal. This item is included for contingency use only.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROTECTION OF UTILITIES

Fishbeck:DD

1 of 1

4/22/2020

a. General.- 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 backcharged 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 their subcontractor[s] and supplier[s]) work.

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

Television inspection of the sanitary sewers will take place before and after cured-in-place pipe (CIPP) lining operations. The City of Ann Arbor (City) may also choose to televise utility line(s) during or after the work of this project to inspect them for damages and/or construction debris. If post CIPP lining televising and/or subsequent City inspection shows damage and/or debris, 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.

The costs for complying with the requirements of the Detailed Specification will not be paid for separately, but shall be included in the bid price of the contract pay item "General Conditions."

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PROTECTION OF ARBORETUM

Fishbeck:DD

1 of 4

4/22/2020

a. Description.- This work shall consist of staging, gaining access to the site, and performing the work associated with the Contract while minimizing the impact on the existing environment and features within the Nichols Arboretum. 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.

b. General.- Damage to the Nichols Arboretum by the Contractor’s operation(s) or the operation(s) of the Contractor’s subcontractor(s) or supplier(s) shall be repaired under the direction of the University of Michigan (U of M) and the City of Ann Arbor Natural Area Preservation Department. The required repairs may be performed by the U of M Matthaei Botanical Gardens and Nichols Arboretum (MBGNA) Grounds Department with all associated costs being charged directly to the Contractor. Payment of these charges is the Contractor’s responsibility and shall not be paid for separately.

The Contractor's personnel or equipment shall not damage the existing vegetation along Nichols Drive, existing trails, or slopes. The Contractor will not be allowed to clear trees or brush to perform their work operations unless specifically indicated on the Drawings or approved by the U of M and the Engineer.

c. Protection of Trees.- Unless indicated for removal, all trees shall be preserved and protected. Any damage to trees or tree limbs, which is caused by the Contractor (or their designee[s]), regardless of height, shall be the Contractor’s responsibility. The Contractor therefore assumes the condition of the trees and tree limbs in an “as-is” condition once the project begins.

The Contractor shall not trim or remove any trees without the approval of the U of M and the Engineer. This includes any trimming required for inversion towers or for access to inversion sites. All costs shall be the responsibility of the Contractor.

Arboretum staff have developed the following list of tree protection measures and locations. This list is intended to represent the minimum level of effort required. Additional protection measures and locations may be required based upon Contractor operations.

Segment	Sheet No.	Manhole Number	Mgt Zone Location	Notes
1	C-5	71-69219	SGG	Fence removal (Contractor)
	C-5	71-69242	SGG	Fence removal (Contractor)

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PROTECTION OF ARBORETUM

Fishbeck:DD

2 of 4

4/22/2020

Segment	Sheet No.	Manhole Number	Mgt Zone Location	Notes
	C-5	71-69271	SGG	Not shown as access point in updated plans. Clearing TBD.
2	C-8	71-70039	Harvard Drain	Necessary clearing TBD after contractor hired
3	C-9	71-70039	Harvard Drain	See Segment 2
5	C-14	71-0046	Magnolia Glade/Oak-Hickory Woods	Root protection: Birches, Magnolias
		71-69942	Magnolia Glade/Oak-Hickory Woods	Clearing completed 3/2020. Necessary additional work TBD after contractor hired.
		71-69943	Magnolia Glade/Oak-Hickory Woods	See notes for 71-69942.
6	C-15	71-70044	Magnolia Glade	Not shown as access point on updated plans. Root protection needed if accessed.
		71-70045	Magnolia Glade	Root zone protection: Cottonwood
		71-70046	Magnolia Glade	Root zone protection: Birch, Magnolias
		71-69899	Magnolia Glade	Clearing completed 3/2020
		71-69900	Warbler's Way	Clearing completed 3/2020
7	C-25	71-69896	Amphitheater Area	Clearing completed 3/2020. Root protection: Pine trees
8	C-26	69-57654	Prairie/Savannah	Sanitary fitting. Root protection TBD if access needed.
		71-70014	Prairie/Savannah	Near woodlands. Impact TBD.

d. Protection of Drives, Trails, and Slopes.- The Contractor is permitted to use the locations within Nichols Arboretum and other work areas as indicated on the Drawings and as described in Detailed Specification "Working Space." Other existing trails may also be used for foot traffic, depending on the specific operations being performed, and as approved by the Engineer.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROTECTION OF ARBORETUM

Fishbeck:DD

3 of 4

4/22/2020

Rubber tracked equipment up to 6 feet wide (i.e.: bobcat, mini excavator, etc.) and equipment up to 10 feet wide (i.e. compactor/mini excavator, loader, etc.) will be permitted on Nichols Drive, and in the areas designated as work or staging areas on the Drawings to be used for chamber and access path construction, cleaning operations, and cured-in-place pipe (CIPP) lining operations.

Any portion of Nichols Drive damaged by construction activities, including rutting from trucks, temporary pipe trenches, etc., shall be repaired in accordance with the aggregate drive detail on the Drawings and as approved by the Engineer.

Particular attention is directed to the north side of Nichols Drive, immediately north of the intersection of Nichols Drive and East Medical Center Drive. This location, referred to as "the Slope," is of great concern to U of M. As such, the contractor shall, to the extent practical, avoid driving construction vehicles on that section of road. The Contractor shall utilize flaggers as necessary to control traffic while utilizing the south side of the road.

The Contractor shall protect slopes and open areas within the Arboretum during construction operations to the extent possible. If, in the opinion of the Engineer, the existing slopes are too soft and construction equipment is causing rutting, the Contractor will be required to protect the slope from construction equipment with protection materials, or other means necessary, as approved by the Engineer. The Contractor will be required to maintain this protective material, including replacing defective, worn or broken materials, until the Engineer determines it is no longer needed and can be removed from the project. It is the Contractor's responsibility to remove and properly dispose of this material when it is no longer needed. It is the Contractor's responsibility to restore the trail to the satisfaction of the Engineer.

e. Protection of Arboretum.- Protect existing site features within the Arboretum. Any damage to features within the Arboretum, including, but not limited to, treated lumber and gravel pedestrian steps, benches, tables, monuments, boulders, lamp posts, stone bridge abutments, call boxes, amphitheater, etc., which is caused by the Contractor (or their designee[s]), shall be the Contractor's responsibility to restore or replace damaged features to a condition that is equal to, or better than, original condition as determined by the Engineer and/or parties having jurisdiction. The Contractor therefore assumes the condition of such features in an "as-is" condition once the project begins.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROTECTION OF ARBORETUM

Fishbeck:DD

4 of 4

4/22/2020

f. Material.- Slope and trail protection materials shall be temporary materials such as flotation mats, plates, planks, 3/4-inch plywood, or other similar materials as approved by the Engineer. The Contractor will not be allowed to place aggregate materials on the path to stabilize it.

g. Measurement and Payment.- All costs for complying with the requirements of this Detailed Specification will not be paid for separately but shall be included in the bid price of the contract pay item "General Conditions."

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PROTECTION OF WETLANDS

Fishbeck:DD

1 of 2

4/22/2020

a. Description.- This work shall consist of protecting the wetlands located within Nichols Arboretum in accordance with Part 303 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and Chapter 60 of the City of Ann Arbor (City) Code of Ordinances: Wetlands Preservation Ordinance.

Any damage to wetlands, which is caused by the Contractor (or their designee[s]), shall be the Contractor’s responsibility. The Contractor therefore assumes the condition of the wetlands in an “as-is” condition once the project begins. Damage to the wetlands by the Contractor’s operation(s) or the operation(s) of the Contractor’s subcontractor(s) or supplier(s) shall be repaired under the direction of the University of Michigan (U of M) and City. The required repairs may be performed by the U of M Matthaei Botanical Gardens and Nichols Arboretum (MBGNA) Grounds Department with all associated costs being charged directly to the Contractor. Payment of these charges is the Contractor’s responsibility and shall not be paid for separately.

Wetlands shall be protected from erosion, turbidity, siltation, and contamination. Contractor shall not perform any of the following actions within wetland limits without a permit from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or without the approval of the City and U of M:

1. Deposit or permit the placing of fill material.
2. Excavate or remove soil or vegetation.
3. Construct, operate, or maintain any use or development.
4. Drain surface water, such as diverting water to another area via ditch, pump, or drain.
5. Direct water from an upland activity into a wetland.

All costs shall be the responsibility of the Contractor.

b. Delineation – A wetland delineation has not been performed for the project area. It is intention of this project to complete the work without impact to any wetland area. City of Ann Arbor GIS information indicates a wetland area near MH 71-69896. Should the Contractor determine that any of the actions outlined in Item a above must be performed near MH 71-69896 the Engineer shall be notified immediately.

The Contractor may, at no cost to the Owner, arrange to have a wetland delineation performed. The delineation must be conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the Regional Supplements to the Corps of Engineers Wetland Delineation Manual. Data collected on the vegetation, soils, and

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROTECTION OF WETLANDS

Fishbeck:DD

2 of 2

4/22/2020

hydrologic characteristics of the identified wetland area should be summarized on U.S. Army Corps of Engineers Wetland Determination Data Forms.

If the delineation determines that MH 71-69896 is not located within a wetland area, the Contractor may proceed with the required work. If the delineation determines the manhole is located within a wetland area, the Contractor must obtain an EGLE/Army Corps of Engineers joint permit prior to performing the work within the delineated area.

c. Material.- Wetlands shall be protected as indicated on the Drawings using protective construction fence, silt fence, snow fence, or other similar materials as approved by the Engineer.

d. Measurement and Payment.- All costs for complying with the requirements of this Detailed Specification will not be paid for separately but shall be included in the bid price of the contract pay item "General Conditions."

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AGGREGATE MAINTENANCE PAD

Fishbeck:DD

1 of 2

5/22/2020

a. Description.- This work shall consist of constructing a temporary two-track wood access path from designated roads and paths through the woods, to gain access to sanitary MH 71-69899 and MH 71-69900 (access to MH 71-69896 is included as a contingency item), as well as constructing an aggregate maintenance pad adjacent to the manholes as indicated on the Drawings. Except as otherwise specified herein, all work shall be performed in accordance with the City of Ann Arbor (City) Public Services Area Standard Specifications, Sections 306 and 902 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, as indicated on the Drawings, and as directed by the Engineer.

b. Construction.- The route of the pathway and area for the maintenance pad as indicated on the Drawings shall be considered fixed and shall not be altered unless approved by the City and the University of Michigan (U of M). The path through the woods shall be graded to promote positive drainage and follow the existing topography to the extent possible. Excavation and embankment will be required.

All clearing required for construction of the access path and pad shall be performed by the Nichols Arboretum staff. The Contractor shall remove the existing topsoil and stockpile at a location designated by Arboretum staff.

The Contractor's personnel or equipment shall not damage the area surrounding the proposed path and maintenance pad, including vegetation along the existing trail and sloped areas. The Contractor shall not be allowed to clear trees or brush to perform their work operations unless specifically shown on the Drawings or approved by the Engineer and U of M.

Upon completion of the work the Contractor shall remove the aggregate maintenance pad, regrade as necessary, and replace stockpiled topsoil. No outside topsoil shall be permitted. Arboretum staff shall complete the restoration.

All materials are to be delivered to the site through the access points indicated on the Drawings. It will be the Contractor's responsibility to move materials with equipment meeting the requirements above to the site of the work.

c. Material.- The wooden tire track shall be constructed of minimum $\frac{3}{4}$ -inch plywood or equivalent based upon the weight of the vehicles being used. The aggregate access pad shall be constructed of crushed limestone aggregate. Aggregate materials shall be provided in accordance with the 2012 edition of the MDOT Standard Specifications for

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AGGREGATE MAINTENANCE PAD

Fishbeck:DD

2 of 2

5/22/2020

Construction, as indicated on the Drawings, and as approved by the Engineer. Material shall be subject to the approval of the Engineer.

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

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Aggregate Maintenance Pad, MH 71-69899	Each
Aggregate Maintenance Pad, MH 71-69900	Each
Contingency Aggregate Maintenance Pad, MH 71-69896	Each

The contract pay items listed herein shall be payment in full for all labor, material, and equipment necessary to furnish and install the items of work listed above, and shall include, but is not limited to, excavation, backfill compaction, moving materials to and throughout the installation location, disposal, and all other items necessary to complete the work, whether specifically mentioned or implied.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PRECAST MANHOLES

Fishbeck:DD

1 of 5

5/22/2020

a. Description.- This work shall consist of providing all labor, materials, and equipment required to complete the installation of precast sanitary manholes onto the existing sanitary sewers. Where necessary to facilitate other work, this shall include exploratory excavation and/or sewer locating services to identify the required manhole installation location, and providing all labor, materials, and equipment required to remove and replace existing manhole casting and cone sections. 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.

b. Materials of Construction.- All materials of construction shall be in accordance with the City standard specifications as outlined herein.

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

2. Cast iron frames and covers for manholes shall conform to the requirements for grey iron castings, ASTM A 48, Class No. 30. Specific, approved castings are listed in the Casting Schedule in the Standard Details.

3. Plastic coated manhole steps shall be injection molded of copolymer, polypropylene, encapsulating a 1/2-inch grade 60 steel reinforcing bar. Plastic-coated manhole steps shall meet the performance test described in ASTM C-478, Paragraph 11, and shall have an impact resistance of 300 ft-lbs., with only minor deflection and no cracking or breaking. The steps shall resist pull out forces of 1,500 lbs.

4. Manhole connection to sewer pipe shall be made through a “dog-house” opening sealed with non-shrink grout.

c. Construction Methods, New Manholes.- All construction methods shall be in accordance with the City standards as modified herein.

1. The Contractor shall utilize the information collected from the sewer televising work to locate the sewer deflection fitting and stake the approximate location from both the upstream and downstream manholes. If the location cannot be determined

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PRECAST MANHOLES

Fishbeck:DD

2 of 5

5/22/2020

with confidence, the Contractor shall engage the services of a subcontractor specializing in the use of locating sonders or equivalent technology.

2. All required clearing shall be performed by others.
3. Exploratory excavation shall only be performed in the presence of and directed by the Engineer.
4. Temporary fencing and erosion control measures (silt fencing) shall be placed at the limits of the cleared area.
5. Excavation for manhole installation shall be carried to the depth and width required to permit the construction of the required base. The excavation width shall be greater than the base. The excavation shall be shored. The bottom of the excavation shall be trimmed to a uniform horizontal bed and be completely dewatered before any concrete is placed therein. Concrete shall be Class A. Precast manhole bases and precast bottom sections are allowed.
6. Circular precast sections shall be constructed in accordance with the Standard Detail Drawings. Manhole stack units shall be constructed on level poured-in-place bases, precast concrete bases, or precast bottom sections.
7. Precast cone sections shall be constructed in accordance with the Standard Details. These shall be eccentric for all manholes. All structures shall be topped with a minimum of one and a maximum of three brick or precast adjustment ring courses.
8. Manholes shall be constructed within 2-1/2 inches of plumb.
9. Frames and cover castings shall be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers shall be set flush with sidewalk, roadway pavement, or ground surfaces.
10. Sewer pipes shall extend into structures a minimum of 1/2-inch and a maximum of 3 inches.
11. Flow channels for sewer structures shall be finished in accordance with the Standard Details. All flow channels shall be screeded and floated to a smooth, uniform surface and trowled to a hard surface finish. In vitrified clay sewers, the

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PRECAST MANHOLES

Fishbeck:DD

3 of 5

5/22/2020

manhole may be constructed around the pipe, then the top half of the pipe broken out with concrete fillets provided to fill in between the pipe and manhole.

12. As soon as practicable after a precast structure has been set or a cast-in-place structure has been poured, forms and debris have been removed, the surfaces of the concrete have been pointed up, and the structure has been inspected and approved, the excavated area around the structure shall be backfilled up to the specified grade with Class II granular material. No boulders, rocks, stones, masonry, lumber, or debris shall be placed as backfill.

13. Restoration per Detailed Specification for Project Clean-up and Restoration, Special.

d. Construction Methods, Existing Manholes.- All construction methods shall be in accordance with the City standards as modified herein.

- 1. Erosion control devices (silt fence) shall be installed around the site of the excavation.
- 2. Excavation for manhole cone section removal shall be carried only to the depth and width required to permit the removal of the cone.
- 3. Precast cone sections shall be stored for reuse.
- 4. Castings shall be stored for reuse.
- 5. Manholes shall be reset upon completion of the work.
- 6. Manholes within woodland/prairie areas of the Arboretum shall be restored by Arboretum staff. Otherwise they shall be restored by the Contractor.

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

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Contingency Sewer Location Services (8-inch Sewer between MH 71-70046 and MH 71-69899)	LS
Contingency Exploratory Excavation (8-inch Sewer between MH 71-70046 and MH 71-69899)	Each
Contingency Precast Sanitary Manhole	

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PRECAST MANHOLES

Fishbeck:DD

4 of 5

5/22/2020

(8-inch Sewer between MH 71-70046 and MH 71-69899) Each
Contingency Sewer Location Services

(8-inch Sewer between MH 71-69899 and MH 71-69894) LS
Contingency Exploratory Excavation

(8-inch Sewer between MH 71-69899 and MH 71-69894) Each
Contingency Precast Sanitary Manhole

(8-inch Sewer between MH 71-69899 and MH 71-69894) Each
Contingency Sewer Location Services

(8-inch Sewer between MH 71-69894 and MH 71-69900) LS
Contingency Exploratory Excavation

(Between MH 71-69894 and MH 71-69900)..... Each
Contingency Precast Sanitary Manhole

(Between MH 71-69894 and MH 71-69900)..... Each
Contingency Sewer Location Services

(Fitting 69-57654)..... LS
Contingency Exploratory Excavation

(Fitting 69-57654)..... Each
Contingency Precast Sanitary Manhole

(Fitting 69-57654)..... Each
Contingency Manhole/Riser Remove and Replace
(in Pavement, including restoration) Segment 2 – Geddes Heights Each

Contingency Manhole/Riser Remove and Replace
(in Grass, including restoration) Segment 2 – Harvard Place..... Each

Contingency Manhole/Riser Remove and Replace
(in Pavement, including restoration) Segment 3 – W. Ridgeway Street Each

Contingency Manhole/Riser Remove and Replace
(in Pavement, including restoration) Segment 3 – E. Ridgeway Street Each

Contingency Manhole/Riser Remove and Replace
(in Pavement, including restoration) Segment 5 – Regent Drive Each

Manhole/Riser Remove and Replace
(in Pavement, including restoration) Segment 1 – Washington Heights..... Each

Manhole/Riser Remove and Replace
(in Prairie Area, includes regrading, restoration by others)

Segment 7 & 8 – Interceptor Each
Manhole/Riser Remove and Replace

(in Pavement, including restoration) Segment 7 & 8 – Interceptor Each

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PRECAST MANHOLES**

Fishbeck:DD

5 of 5

5/22/2020

The items of work listed above are contingency items to be used only as directed by the Engineer and shall be paid for by the work actually performed. The unit price for these items of work shall include all labor, material, and equipment costs to perform the work as detailed herein.

The lump sum price bid for Sewer Locating Services shall be based upon an 8-hour, onsite workday. The time required for mobilization and demobilization is not included in the 8-hour workday, but the costs thereof are included in the price bid.

The Each price for Exploratory Excavation includes mobilization of equipment, installation of soil erosion and sediment control measures, temporary sheeting, bracing and shoring, excavation to the average depth the sewer segment in question (up to 10 feet), stockpiling of excavated materials, and backfill of the excavation and compaction. Exploratory excavations shall not be allowed to remain open overnight.

Manholes for 8-inch diameter sewers shall be 4-foot diameter. Manholes for 36-inch sewers shall be 5-foot diameter.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WATER SOURCE

Fishbeck:DD

1 of 2

5/22/2020

a. General.- This work shall consist of furnishing a source of water for performing sanitary sewer cleaning and cured-in-place pipe (CIPP) lining operations including, but not limited to labor, materials, and equipment required to obtain and transport water from source.

b. City Water Source.- The Contractor may elect to use water from the City-approved fire hydrants on each residential street where work is being performed, the hydrant on Washington Heights Drive, and the hydrant located in the main valley of the Arboretum. Additional hydrants may only be used with prior approval of the Engineer.

Use of an approved double check backflow assembly shall be required. Contractor shall obtain backflow assembly, hydrant meter, and vandal-resistant hydrant meter cage from the City of Ann Arbor Customer Services Unit, and coordinate installation of equipment. Contractor shall pay current market price for all water usage. Obtaining and transporting "City Water" for use on the project will not be paid for separately, but will be included in the cost of other items.

The Contractor shall protect fire hydrants and backflow preventer from freezing and damage. The hydrant used by the Contractor shall be pumped down by the Contractor to prevent freezing. If a fire hydrant becomes frozen, or is not properly closed or pumped down, or otherwise damaged by the Contractor, it shall be repaired by the Contractor at no additional cost to the project. These costs are deemed to include the removal and replacement of sidewalk and any other items that are required to be removed and replaced in order to properly replace the fire hydrant.

If using the hydrant for a water supply, the Contractor shall coordinate their activities requiring the water source to occur within the time limitations and constraints as described in Detailed Specification "Construction Sequencing." Should it be necessary for the Contractor to transport water into the Arboretum the City will designate a hydrant for tanker filling.

No additional payment shall be provided for delays encountered by the Contractor in providing water to the site.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
WATER SOURCE**

Fishbeck:DD

2 of 2

5/22/2020

c. Measurement and Payment.- All work required to provide the water source for sewer cleaning and CIPP operations as described in this Detailed Specification including, but not limited to, accessing, operating, maintaining, and protecting the City fire hydrant in a useable condition will not be paid for separately, but shall be included in the related items of work.

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES**

Fishbeck:DD

1 of 8

5/22/2020

a. Description.- This work shall consist of the cleaning and video inspection of sewers 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 as indicated on the Drawings in accordance with NASSCO Manhole Assessment and Certification Program (MACP) Level 2 requirements.

b. 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 2012 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.

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES**

Fishbeck:DD

2 of 8

5/22/2020

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

c. 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.

1. **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

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES**

Fishbeck:DD

3 of 8

5/22/2020

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.

2. 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.

3. 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 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

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES**

Fishbeck:DD

4 of 8

5/22/2020

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 number 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 only be allowed to occupy the manholes as shown on the Drawings for the performance of the cleaning operations. For major blockages where cleaning cannot be completed, 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.

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR CLEANING AND TELEVISIONING SEWERS AND MANHOLES

Fishbeck:DD

5 of 8

5/22/2020

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."

All water necessary for the cleaning and lining operations shall be furnished in accordance with Detailed Specification "Water Source."

The cleaning and removal of the material out of the sewer system shall be paid for as part of the individual sewer cleaning contract pay items. 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.

4. Manhole 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 and chamber cleaning shall be incidental to the sewer cleaning and no additional payment shall be provided.

5. Sewer Television Inspection.- The initial "pre-rehabilitation" television inspection of the sewers and siphon 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."

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR CLEANING AND TELEVISIONING SEWERS AND MANHOLES

Fishbeck:DD

6 of 8

5/22/2020

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.

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, 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.

Video recording of the sewer televising of the portions of the sanitary sewer between MHs 71-70046 and 71-69899, 71-69899 and 71-69894, 71-69894 and 71-69900, and 71-70014 and 71-70075, must provide a 360° view of the buried fittings, and location of buried fittings as measured from the downstream manhole.

The initial television inspection shall be paid for under contract pay items. 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.

6. Manhole Inspection.- All sanitary manholes 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

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES**

Fishbeck:DD

7 of 8

5/22/2020

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.

7. 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.

d. 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,

CLEANING AND TELEVISIONING SEWERS AND MANHOLES

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CLEANING AND TELEVISIONING SEWERS AND MANHOLES

Fishbeck:DD

8 of 8

5/22/2020

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.

e. 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 item:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Clean _-inch Dia. Sanitary Sewer (Segment _)	Lineal Foot
PACP Televiser _-inch Dia. Sanitary Sewer (Segment _)	Lineal Foot
Level 2 MACP Inspect Manhole or Chamber (Segment _)	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.

REMOVAL AND DISPOSAL OF SLUDGE AND DEBRIS MATERIAL

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR**

REMOVAL AND DISPOSAL OF SLUDGE AND DEBRIS MATERIAL

Fishbeck:DD

1 of 2

5/22/2020

a. General.- 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.

b. Sanitary Sewer Material.- The material removed from cleaning the sanitary sewers and manholes shall be removed from the system as described in Detailed Specification, "Cleaning and Televising Sewers 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.

Debris encountered in the sewers can be expected to be reflective of the tributary areas providing flow to the sewers. These include both residential and hospital flows.

c. 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 vacuor 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 Contractor shall submit to the Engineer for approval the spill containment measures to be employed at each decant location. 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.

d. 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,

REMOVAL AND DISPOSAL OR SLUDGE AND DEBRIS MATERIAL

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR**

REMOVAL AND DISPOSAL OF SLUDGE AND DEBRIS MATERIAL

Fishbeck:DD

2 of 2

5/22/2020

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 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.

e. 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:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

1 of 13

5/22/2020

a. 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 flow upstream of the 36-inch sanitary sewer within the work zone to other City of Ann Arbor (City) sanitary sewers by installing a plug in the sewer system. The flows from the various laterals to the smaller diameter sewers connected to the 36-inch 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, the University of Michigan (U of M), or the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for any backup, leak, spill, or sanitary sewerage overflow.

b. 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

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL**

Fishbeck:DD

2 of 13

5/22/2020

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 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. Monitoring of the system shall be performed and documented at each installation. Records of the system monitoring shall be submitted to the Engineer;

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

3 of 13

5/22/2020

9. Maintenance of traffic plan for plug installation and removal in public roadways;

10. Sewer plug types, method of installation and removal, anchors and restraints, and hydraulic head limits;

11. Lateral bypass pump sizes, capacities, power requirements, and number of each size to be provided at each manhole including redundancy;

12. 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;

13. Number, size, material, and location of lateral bypass pumping suction and discharge piping, procedure for protecting lines, and location of bypass pumping discharge manhole;

14. Lateral bypass pumping system flushing and drainage plan;

15. Buried bypass pipe locations and details;

16. Environment protection including pump containment and leak detection;

17. Method of protecting discharge manholes or structures from erosion and damage;

18. Method of noise control for each pump and generator;

19. Secondary noise control barrier (mandatory); and,

20. Design plans for access to bypass pumping locations indicated on the Drawings.

c. 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.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
SEWER FLOW CONTROL

Fishbeck:DD

4 of 13

5/22/2020

The plug shall be a temporary plug 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.

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.

d. 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.

The locations and approximate flow rates for each of the sewer segments is as follows:

	MH ID	Location	Bypass Pump from	Pump & Haul	Dry Weather Flow (CFS)
Sewer	71-69222	Washington Hts	Y	-	0.087

SEWER FLOW CONTROL

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL**

Fishbeck:DD

5 of 13

5/22/2020

Segment 1	71-69221	By the Reader Center	Y	-	
	71-69252	Parking lot of U of M (By the temp Trailer)	y	-	0.0002
	71-69254	U/S from Segment 1 interceptor connection	-	-	
	Segment Total				
Sewer Segments 2 & 3	71-70021	Ridgeway St	-	y	
	71-70023	Ridgeway St	-	y	
	71-70026	Harward Place	-	Y	
	71-70028	28 Harvard Pl	-	y	
	71-70040	22 Harvard PL	-	y	
	71-70042	26 Harvard PL	-	y	
	71-70035	Arb	-	y	
	71-70057	Ridgeway St	-	y	
Segment Total					11.98
Sewer Segments 4, 5 & 6	71-70038	Arb	y	-	
	71-70039	Arb	y	-	
	71-70032	Arb	y	-	
	71-70044	Arb	y	-	
	71-69946	Regent Dr	y	-	
	71-69898	Arb	y	-	
	71-69893	Arb	y	-	
	71-70046	Arb	y	-	
Segment Total					14.58
Sewer Segment 7 & 8	71-69895	Arb	y	-	
	71-70012	Arb	y	-	
	71-69897	Arb	y	-	
	71-70074	Riverview Ct	y	-	
	71-69919	Pineview CT	y	-	16.15
	71-69254	Hospital connection to interceptor	n/a	n/a	
	71-70050	Segment 1 connection to interceptor	n/a	n/a	0.0192
71-68799	u/s MH from 21" connection to	n/a	n/a		

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
SEWER FLOW CONTROL

Fishbeck:DD

6 of 13

5/22/2020

		interceptor			
	Segment Total				

The Contractor shall take into account seasonal variations and include a safety factor above the indicated peak flow values in sizing pumping equipment.

For sanitary sewerage, bypass piping shall be PVC Schedule 80, or equivalent, with solvent welded joints; or HDPE with butt fused joints. The Contractor shall perform hydrostatic testing of bypass pump discharge pipes 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.

1. 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 lateral 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

7 of 13

5/22/2020

e. Residential Flow Diversion.- Residential sewer lateral location data for the project area is limited. The Contractor shall verify and document the sewer lateral locations as part of the sewer cleaning and televising process. The Contractor should assume each residence within the project area is connected to a sanitary sewer and must account for each residence abutting the respective sewer segments. With the exception of the Caretakers Residence, there are no known sanitary sewer laterals located within the Arboretum.

The Owner will permit water use restrictions to be used to reduce bypassed flows. Use restrictions proposed by the Contractor shall be reviewed and approved by the Owner.

The Contractor shall develop a flow diversion plan that permits the work to be completed with the least disruption of service to the residents.

Plans reflect collecting sanitary flows and hauling them to a remote, Owner approved location for disposal. This is a recommendation only; the Contractor is not required to use this bypass method. Contingency bid items for removing manhole casting and cone sections are included for use if it is determined that pumping and lining operations need to be performed from the same manhole.

Bypass pumping from manholes on Geddes Heights, East Ridgeway Street, West Ridgeway Street, and Harvard Place to manholes on Geddes Avenue is not prohibited but subject to many restrictions. Including but not limited to the following:

1. Two-way traffic must be maintained at all times.
2. The manholes on Geddes Avenue are located in the approximate center of the road. Manholes shall not be permitted to remain uncovered. The Contractor shall be required to fabricate a manhole covering that allows for connection of the bypass piping.
3. All bypass piping crossing roads or driveways shall be placed in a traffic load rated crossing ramp or Owner approved equal.
4. Crossing ramps shall not be permitted during winter months when plowing of Geddes Avenue is required. Actual dates to be determined by the Owner based upon the Contractor's schedule and weather forecasts.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

8 of 13

5/22/2020

5. Excavating Geddes Avenue to install temporary piping shall not be permitted.

Bypass pumping from the Regent Drive cul-de-sac to manholes on Highland Road shall be subject to the same restrictions outlined above.

f. Washington Heights Flow Diversion.- The exact location of the sanitary lateral servicing Ronald McDonald House (RMH) is unknown. It is presumed to be located between MH 71-69222 and MH 71-69220. RMH provides 31 rooms for families ranging in size from 4 to 5 persons. This includes 12 guest rooms on the lower level. All guest rooms have restroom facilities. The facility is usually full, operating on a waiting list basis. Due to excessive pedestrian traffic, the work on Washington Heights must be performed at night. Therefore, noise control is of great concern. All bypass pumping and power generating equipment shall have primary and secondary sound attenuation in place before the start of any work.

Plans indicate bypass pumping from MH 71-69221. The only known sanitary contributions to this manhole are from the Nichols Arboretum Reader Center. The Reader Center is closed during evening hours. If the Contractor can verify that there is no contributing flow at this manhole then bypass pumping will not be required. The Contractor shall bid based upon providing the pumping.

Two options are available for bypass pumping from MH 71-69219 and MH 71-69252. The Contractor may route pump discharge piping down the slope to MH 71-70050. Alternately, the Contractor may also route pump discharge piping to MH 71-69236. If the Contractor elects to use the alternate discharge location the following restrictions shall apply:

1. Contractor shall not close any portion on East Medical Center Drive.
2. Bypass pump discharge piping shall be routed behind the sidewalk west of the tree line. Piping shall not be placed in the road or on the sidewalk. The sidewalk shall remain open.
3. Temporary fencing shall be placed between the sidewalk and the piping.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

9 of 13

5/22/2020

g. Interceptor Flow Diversion.- Flows enter the 36-inch Southside Interceptor Sanitary Sewer flowing through Nichols Arboretum through four sewers. The first is the 42-inch reach of the Southside Interceptor Sewer located in Fuller Street that reduces to the 36-inch Nichols Drive Sewer. The second sewer is a 21-inch sewer that collects flows from the U of M Hospital Complex and connects to the 36-inch Southside Interceptor in the Nichols Arboretum through a buried manhole. The third is a 10-inch sewer connecting to the interceptor at MH 71-69254. The fourth sewer is the 10-inch sewer located along Washington Heights/East Medical Center Drive (Sewer Segment 1) at MH 71-70050.

The Contractor shall divert flows from the 42-inch Fuller Street Sewer by installing a plug on the downstream side of the 42-inch pipe flowing east at MH 71-71813 and diverting the flow north into the 42-inch bypass sewer at MH 71-71953. The east/west 42-inch pipe passes through the manhole with the top half of the pipe removed. The east/west 42-inch pipe is approximately 3.6 feet higher than the 42-inch pipe to the north.

All remaining flows (21-inch, 2 each 10-inch) must be bypass pumped at MH 71-69893.

The Contractor shall note that average dry weather flow in the 36-inch sanitary sewer averaged between 9 and 17 cubic feet per second (cfs) based on flow monitoring data from August 24 through September 7, 2016. The split of flow between the 42-inch sewer from Fuller Street and the 21-inch sewer from the hospital is unknown. The Contractor is to take all necessary precautions when installing the plugs in these sewers under live flow conditions.

The Contractor is responsible for obtaining any approvals and permits for lane closures and placement of temporary equipment within public ways from the Agency having jurisdiction. The Contractor shall provide the City a minimum of 7 days advance notice for flow diversions/installation of plugs and consequent lane closures. Work within the Fuller Street/Glen Court intersection shall be limited to the hours of 9:00 a.m. to 3:30 p.m. Due to the location of MH 71-68799, the Contractor shall be required to coordinate access to this manhole with the U of M Hospital Complex staff and shall avoid unnecessary traffic obstructions; this will require the work needed to perform the installation(s) be completed by early morning (prior to 7:00 a.m.) or shall not begin until late night (after 7:00 p.m.) and shall be as approved by U of M. Should a wet weather event occur, the Contractor will be allowed to enter East Medical Center Drive after providing notice to the Engineer.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

10 of 13

5/22/2020

The Contractor shall install temporary traffic control measures as indicated on the maintenance of traffic plans and as approved by the Engineer.

Copies of the record drawings from the U of M Hospital Replacement Project and the associated utility work have been included with the set of Drawings for the Contractor's reference. The City has video inspection of MH 71-68799 available to the Contractor upon request.

The Contractor shall install plugs and level sensors as shown on the Drawings 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.

h. Lateral Bypass Pumping.- At no time shall plugging and/or blocking of flow from the U of M Hospital Complex service connections be permitted.

The Contractor shall construct and maintain bypass pumping facilities as needed that will pump the flow rates as specified elsewhere herein. The Contractor shall provide the City and U of M with a minimum of 7 days advance notice prior to initiating the sanitary sewer bypass pumping system.

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

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. Under no circumstances shall sanitary sewage within the bypass discharge line be drained to the Huron River.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

11 of 13

5/22/2020

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 discharge pipe shall be routed along the west/south (non-river) side of Nichols Drive and shall be routed to avoid adversely impacting all wetlands. 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 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, casing, spacers, trenching, and backfill shall be included in the contract pay item "Sewer Flow Control."

1. Wet Weather Event.- A wet weather event is defined as an event that causes the flow in the system to surcharge to the following elevations:

Level Sensor 1 – MH 71-71813: 782.00 feet

When a wet weather event occurs, the Contractor shall cease all operations in the sewer system, remove all three plugs, and allow sewage to flow back into the Southside Interceptor Sewer located in the Nichols Arboretum. The plugs shall be removed as not to cause a surge downstream. At no time is the flow in the system allowed to raise to the following elevations due to the Contractor's operations:

Level Sensor 1 – MH 71-71813: 784.00 feet

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 lateral bypass pumping system occurred after the sewers had been cleaned,

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

12 of 13

5/22/2020

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."

i. 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.

j. 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.

k. 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 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER FLOW CONTROL

Fishbeck:DD

13 of 13

5/22/2020

I. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract pay item:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Sewer Flow Control (Segment _)	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 (Segments 7 & 8 – Interceptor)."

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.

25% 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. 50% of the lump sum shall be paid upon returning the sewer back into service. The remainder of the cost shall be paid for after the removal of all equipment from the site.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CIPP SEWER LINING

Fishbeck:DD

1 of 13

5/22/2020

a. 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 Sewers and Manholes" and authorization to begin by the Engineer has been granted.

b. 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 Factor2
- Ovality.....As measured by Contractor during sewer inspection, assume 2% for bidding purposes
- Soil Density130 pounds per cubic foot (lbs/cft)
- Soil Modulus700 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.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CIPP SEWER LINING

Fishbeck:DD

2 of 13

5/22/2020

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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

3 of 13

5/22/2020

c. 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.

1. **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.

2. **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.

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

4 of 13

5/22/2020

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 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

5 of 13

5/22/2020

3. **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.

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.

For this project, two bids are required from each bidder. Each bidder shall provide a unit price for styrene-based liner resin and a unit price for non-styrene based liner resin.

4. **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.

5. **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.

d. 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. 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

6 of 13

5/22/2020

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.

1. 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 Sewers and Manholes," and as directed by the Engineer.

2. 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 Sewers and Manholes."

3. 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.

4. 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 Sewers and Manholes" and as directed by the Engineer.

5. Installation of Resin Impregnated Tube.- Due to the sensitive nature of the project work site, the Contractor shall only be allowed to use manholes shown on the Drawings for the installation point of the liner into the existing sewer to be lined.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

7 of 13

5/22/2020

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 manholes 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.

6. Curing.- Hot water or steam 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 or steam generation equipment as necessary to cure the liner. The equipment shall be capable of delivering hot water or steam to the far end of the liner through a hose, which has been perforated per manufacturer's recommendations, to uniformly raise 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.

All water necessary for CIPP lining operations shall be furnished in accordance with Detailed Specification "Water Source."

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

8 of 13

5/22/2020

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.

Where directed by the Engineer, the Contractor shall provide masking agents to compensate for noxious odors generated during the curing process.

7. 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

9 of 13

5/22/2020

8. **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.

9. **Service Lead Connections.**- Work shall be scheduled to minimize the interruption of service to homeowners within the lined sections. Sewer service shall not be interrupted overnight. Owner shall notify Contractor in writing when a service lead is not to be reconnected. Leads not being lined shall be reconnected by cutting liner from the inside after the liner has been fully cured and cooled. Cutting shall produce a smooth edge and there shall not be an annular space between liner and service lead. If the service reinstatement results in an opening greater than 100 percent, the Contractor shall install a CIPP type repair sufficient in size to cover the over-cut service connection. No additional compensation will be paid for the repair. If identified, install a clean-out on the lateral near the property right-of-way line. Lateral liner connection to sewer main shall overlap the entire circumference of the sewer main to prevent a gap for roots and infiltration to penetrate.

10. **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.

11. **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 Sewers and Manholes." No payment shall be provided for post rehabilitation television inspection. All costs associated with post-rehabilitation television inspection shall be included in the price bid for lining the respective sewer segment.

12. **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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

10 of 13

5/22/2020

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.16 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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

11 of 13

5/22/2020

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.

13. 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."

14. 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."

15. 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, Part d, Item 16, "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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING

Fishbeck:DD

12 of 13

5/22/2020

16. 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.

e. Measurement and Payment.- The completed work as measured for this item of work will be paid for at the contract unit prices for the following contract pay item:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
CIPP Line _-inch Dia. Sanitary Sewer (Segment _)	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.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CIPP SEWER LINING**

Fishbeck:DD

13 of 13

5/22/2020

The lengths listed represent center of manhole to center of manhole distance that shall be used for payment. No additional length will be calculated due to discrepancies between measurements.

PROJECT CLEAN-UP AND RESTORATION, SPECIAL

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

Fishbeck:DD

1 of 4

5/22/2020

a. Description.- This work consists of performing on-going clean-up, removing, and disposing of debris; including soil erosion control fences, protective fences, fallen timber, logs, brush, rocks, boulders, and any other rubbish generated from the Contractor's operations within the project limits or areas impacted by their operations. The Contractor shall perform final restoration and establish the planting areas as described in this Detailed Specification, as indicated on the Drawings, and as directed by the Engineer.

The related work of salvaging the existing topsoil, stockpiling the existing topsoil, preparing the earth bed, re-spreading the topsoil, furnishing the seed mixtures, sowing the seed, furnishing, placing, and anchoring the mulch blanket shall conform to the requirements of this Detailed Specification and Section 816, Turf Establishment, of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction.

b. Materials.- The materials shall meet the requirements specified in the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein:

1. Nichols Arboretum Woodland Areas.- All disturbed woodland areas within the Nichols Arboretum shall be restored by the Arboretum staff. The Contractor shall remove all materials imported to the site and prep the site for restoration as directed by Arboretum personnel (including but not limited to grading, transporting, and spreading stockpiled topsoil).

2. Nichols Arboretum Lawn Areas.- The disturbed lawn areas in the Nichols Arboretum shall be seeded with a low maintenance, drought resistant mixture. Use a seeding mixture that is composed of four or more species of perennial grass. Use only species and their cultivars or varieties which are guaranteed hardy for Michigan. Do not select grass species considered noxious or objectionable, such as Quack Grass, Smooth Brome, Orchard Grass, Reed Canary Grass, and others. Seed mixture must be approved by Arboretum staff.

A suggested formulation and suggested mix are indicated below:

Typical Formulation:

Hard fescue (<i>Festuca brevipila</i>)	25%
Sheep fescue (<i>Festuca ovina</i>)	25%
Chewings fescue (<i>Festuca rubra</i> var. <i>fallax</i>)	25%
Creeping red fescue (<i>Festuca rubra</i> var. <i>rubra</i>)	25%

PROJECT CLEAN-UP AND RESTORATION, SPECIAL

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

Fishbeck:DD

2 of 4

5/22/2020

Or, Eco-Turf Low Maintenance Fescue Mix, 5 pounds (Lb)/1,000 square foot (SF) seeding rate, prepared by:

Michigan Wildflower Farms
11770 Cutler Road
Portland, MI 48875
(517) 647-6010

3. **Mulch.-** Mulch seeded areas with the appropriate materials for the site conditions to promote germination and growth of seed and to mitigate soil erosion and sedimentation. Mulch blankets shall be high velocity straw mulch blankets as specified in the 2012 edition of the MDOT Standard Specifications for Construction, Section 917.15.B.1.b.

c. Construction.- Provide project cleanup as an ongoing operation. Perform project cleanup within the right-of-way, Nichols Arboretum, and any other areas impacted by the project work operations.

Fill all holes and ruts resulting from the work operations with Engineer-approved material. Compact and level all backfill materials and restore ruts and holes to the surrounding contour as directed by the Engineer. Restore areas of Nichols Drive and trails damaged by temporary pipe trenches to their original depth in accordance with the aggregate drive detail on the Drawings and as approved by the Engineer at no additional cost to the project.

Any paved roadways damaged by the Contractor's operations shall be repaired by the Contractor at no additional cost to the project. Contractor shall submit proposed pavement repair details for review and approval by the Engineer.

Grade, re-spread existing topsoil, removing rocks over 2 inches in diameter, place additional topsoil (as needed), place permanent seeding and furnish, place, and anchor erosion control straw mulch blanket in all areas disturbed by the Contractor's operations. The Contractor shall be responsible for performing the permanent restoration of the roadways, stairs, and other areas as part of the work of this Detailed Specification.

Topsoil placement shall occur at the locations called for on the Drawings or as directed by the Engineer. Minimum topsoil thickness in restoration areas shall be 4 inches. The Contractor is not permitted to truck in additional topsoil. Only native topsoil shall be used within Nichols Arboretum.

PROJECT CLEAN-UP AND RESTORATION, SPECIAL

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

Fishbeck:DD

3 of 4

5/22/2020

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 3 percent of the area nor greater than 6- by 6-inch in size.

Clean existing culverts, ditches, depressions, or other areas that contain sediment or debris from the work operations.

Neatly fill any ruts or depressions resulting from removal of soil erosion control materials with existing materials after their removal. Maintenance of silt fencing and other soil erosion control materials until such time as they are no longer needed, then removal and proper disposal of them from the site, shall be included in the bid price for the related soil erosion control device.

The project site shall be left in a condition that is clean and free of all project-generated debris, in accordance with Detailed Specification "Final Acceptance" and to the satisfaction of the Engineer.

d. Maintenance and Acceptance.- In the lawn areas, it is the responsibility of the Contractor to establish a dense, vigorous, weed free lawn of permanent grasses, free from mounds and depressions, prior to final acceptance and payment of this project. Any portion of this seeded area that fails to show a uniform germination, shall be re-seeded. Such re-seeding shall be at the Contractor's expense and shall continue until a dense, vigorous, and weed free lawn is established as determined by the Arboretum staff.

The Contractor shall maintain lawn areas until they have been accepted by the Engineer. Lawn maintenance shall begin immediately after the grass seed is in place, and shall continue until final acceptance with the following requirements:

1. Lawn shall be protected and maintained by watering, mowing, and re-seeding as necessary, until the period of time when the final acceptance and payment is made. The maintenance includes, but is not limited to, watering, fertilizing, mowing, deposition of additional topsoil, re-seeding, and any other work as required to correct all settlement, erosion, germination, and establishment issues until the date of final acceptance of the lawn area by the Engineer.

PROJECT CLEAN-UP AND RESTORATION, SPECIAL

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

Fishbeck:DD

4 of 4

5/22/2020

2. 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 3 percent of the area, nor greater than 6 inches by 6 inches in size.

When the above requirements have been fulfilled, the Engineer will accept the lawn.

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

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Project Clean-Up and Restoration, Sewer Segment _ Special.....	Lump Sum
Seeding, Fescue Lawn Mixture	Lb

"Seeding, Fescue Lawn Mixture" will be measured in Lb based on seeding rate as indicated herein. This item will be paid for at the contract unit prices which shall be payment in full for all labor, materials, and equipment needed to accomplish this work as detailed herein.

After initial placement of the topsoil and seed mixture(s), 50 percent of the total quantity placed for each item will be certified for payment. The remaining 50 percent of the total quantities will be held by the Engineer until such time as all lawn areas have been established and accepted by the Engineer.

The lump sum price "Project Clean-up and Restoration Special" shall include the grading of the area to receive the topsoil, preparing the earth bed, and stockpiling, spreading, and raking the topsoil to provide a uniform surface free of large clods, lumps, rocks, brush, roots, or other deleterious materials, as determined by the Engineer, in order to ready the area(s) to receive the specified seed mixtures.

The lump sum price for "Project Clean-Up and Restoration, Special" shall include all remaining project clean-up and restoration work, including all labor, material, and equipment costs required to complete the work as specified herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE

Fishbeck:DD

1 of 5

4/22/2020

a. General.- The Contractor shall conform to the requirements of Sections 104.07 and 109.07 of the 2012 edition of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, “Contractor Obligations” and “Final Inspection, Acceptance, and Final Payment,” respectively.

b. 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 2012 edition of the MDOT Standard Specifications for Construction.

c. 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE

Fishbeck:DD

2 of 5

4/22/2020

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 2012 edition of the MDOT Standard Specifications for Construction.

d. 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:

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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE

Fishbeck:DD

3 of 5

4/22/2020

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 portions of Lot M29 and 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.

e. 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.

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.

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE**

Fishbeck:DD

4 of 5

4/22/2020

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.

f. 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.

g. 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.

1. 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").

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FINAL ACCEPTANCE**

Fishbeck:DD

5 of 5

4/22/2020

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.

CITY OF ANN ARBOR
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here No. of employees

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.91/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$15.51/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

 Company Name

 Street Address

 Signature of Authorized Representative

 Date

 City, State, Zip

 Print Name and Title

 Phone/Email address

**CITY OF ANN ARBOR
LIVING WAGE ORDINANCE**

RATE EFFECTIVE APRIL 30, 2020 - ENDING APRIL 29, 2021

\$13.91 per hour

If the employer provides health
care benefits*

\$15.51 per hour

If the employer does **NOT**
provide health care benefits*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

The Law Requires Employers to Display This Poster Where Employees Can Readily See It.

**For Additional Information or to File a Complaint contact
Colin Spencer at 734/794-6500 or cspencer@a2gov.org**



Vendor Conflict of Interest Disclosure Form

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 style="border: 0; border-top: 1px solid black;"/> <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

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.