

CITY OF ANN ARBOR
INVITATION TO BID



First Sister Lake Stormwater Retrofit

ITB No. 4517

Due Date: Tuesday, December 19, 2017 at 10:00 AM (local time)

Public Services Area - 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 5
INVITATION TO BID.....	ITB-1 to 3
BID FORMS.....	BF-1 to 5
CONTRACT.....	C-1 to 4
BOND FORMS.....	B-1 to 2
GENERAL CONDITIONS.....	GC-1 to 18
STANDARD SPECIFICATIONS.....	SS-17
GENERAL REQUIREMENTS.....	.01000 to 01700
SITE WORK.....	.02000 to 02975
DETAILED SPECIFICATION.....	DS-1 to 13

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 Notice and Declaration Form*

NOTICE OF PRE-BID CONFERENCE

A **mandatory** pre-bid conference for this project will be held on **TUESDAY, DECEMBER 5, 2017, at 10:00 AM at Larcom City Hall, 301 E. Huron Street, 4th Floor Conference Room.**

Failure to attend the meeting and sign the ITB No. 4517 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 Clarification on ITB Specifications

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 **Friday, December 8, 2017** 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, PE, Public Services - Engineering at **bslizewski@a2gov.org** after discovery as soon 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 TUESDAY, DECEMBER 19, 2017 at 10:00 AM (local time). Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copy in a sealed envelope clearly marked: **ITB No. 4517, First Sister Lake Stormwater Retrofit.**

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 48107

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 completed forms listed above upon bid opening will be rejected as non-responsive and will not be considered for award.

Hand delivered bids will be date/time stamped/signed by the Procurement Unit at the address above in order to be considered. Normal business hours are 8:00 a.m. to 5:00 p.m. Monday through Friday, excluding Holidays. 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-2, Article III of the Contract. If these time requirements can not 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-3 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: www.wdol.gov.

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

Conflict Of Interest Disclosure

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

Major Subcontractors

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

Debarment

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

Disclosures

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

Bid Protest

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

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

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 _____, 201_.

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** _____, 201__

(Print) Name _____ Title _____

Company: _____

Address: _____

Contact Phone () _____ Fax () _____

Email _____

BID FORM

Section 1–Schedule of Prices

Company: _____

Project: First Sister Lake Stormwater Retrofit

File #: 2016-033 ITB No.: 4517

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1	Mobilization	LS	1	\$ _____	\$ _____
2	Construction Staking	LS	1	\$ _____	\$ _____
3	Soil Erosion and Sediment control	LS	1	\$ _____	\$ _____
4	Traffic Control	LS	1	\$ _____	\$ _____
5	As-Built Survey and Drawings	LS	1	\$ _____	\$ _____
6	Certified Payroll Compliance and Monitoring	LS	1	\$ _____	\$ _____
7	Clearing and Grubbing	LS	1	\$ _____	\$ _____
8	Pipe Removal	LF	50	\$ _____	\$ _____
9	Manhole, Type III	LS	1	\$ _____	\$ _____
10	Pipe, Concrete, 24-inch C76 CI IV, Trench V	LF	20	\$ _____	\$ _____
11	Pipe Outlets, Concrete End Section	EA	2	\$ _____	\$ _____
12	Earthwork	LS	1	\$ _____	\$ _____
13	Topsoil	CY	500	\$ _____	\$ _____
14	Erosion Control Blanket	SY	3000	\$ _____	\$ _____
15	Riprap for Overflow and Aprons	CY	100	\$ _____	\$ _____
16	Fieldstone slabs	EA	200	\$ _____	\$ _____
17	Native Seed	AC	1	\$ _____	\$ _____
18	Turf Seed	AC	1	\$ _____	\$ _____
19	Plugs	EA	12600	\$ _____	\$ _____
20	Shrubs	EA	25	\$ _____	\$ _____
21	Path	LF	130	\$ _____	\$ _____
22	Site Restoration	LS	1	\$ _____	\$ _____
23	Landscape Maintenance	MO	12	\$ _____	\$ _____
24	Allowance for unforeseen site conditions	Dollars	15000	\$ 1.00	\$ 15,000.00
				TOTAL BASE BID:	\$ _____

BID FORM

Section 2 - Material and Equipment 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.

<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 _____, 20__, 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 [Insert Title of Bid and Bid Number] 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)
Vendor Conflict of Interest Form
Prevailing Wage Declaration of
Compliance Form (if applicable)
Bid Forms
Contract and Exhibits
Bonds

General Conditions
Standard Specifications
Detailed Specifications
Plans
Addenda

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 harmless 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.

FOR CONTRACTOR

By _____

Its: _____

FOR THE CITY OF ANN ARBOR

By _____
Christopher Taylor, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
Howard S. Lazarus
City Administrator

By _____
Craig Hupy
Public Services Area Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

PERFORMANCE BOND

- (1) _____ of _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for \$ _____, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City dated _____, 201_, 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.

SIGNED AND SEALED this _____ day of _____, 201_.

(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 _____, 201_, 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.

SIGNED AND SEALED this _____ day of _____, 201_

(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 13. 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 which may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor or by any subcontractor or anyone employed by them directly or indirectly. In the case of all contracts involving on-site work, the Contractor shall provide to the City, before the commencement of any work under this contract, certificates of insurance and other documentation satisfactory to the City demonstrating it has obtained the policies and endorsements required on behalf of itself, and when requested, any subcontractor(s). The certificates of insurance endorsements and/or copies of policy language shall document that the Contractor satisfies the following minimum requirements.

- (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 07 98 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 which 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 Job 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 07 97 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 which 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.

- (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 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; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which shall 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) 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 admitted and 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-admitted insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

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

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

Section 30 - Damage Claims

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

Section 31 - Refusal to Obey Instructions

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

Section 32 - Assignment

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

Section 33 - Rights of Various Interests

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

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

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

Section 39 - Cleaning Up

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

Section 40 - Salvage

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

Section 41 - Night, Saturday or Sunday Work

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

Section 42 - Sales Taxes

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

Section 43

CONTRACTOR'S DECLARATION

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

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

Contractor

Date

By _____
(Signature)

Its _____
(Title of Office)

Past due invoices, if any, are listed below.

STANDARD SPECIFICATIONS

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Bid. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents.

Standard Specifications are available online:

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

DIVISION I - GENERAL REQUIREMENTS.....01000

01010	Summary of Work.....	01010
01020	Allowances.....	01020
01025	Measurement and Payment.....	01025
01040	Coordination	01040
01200	Project Meetings	01200
01300	Submittals	01300
01310	Work Plan	01310
01330	Construction Staking.....	01330
01400	Quality Control	01400
01500	Construction Facilities and Temporary Controls	01500
01540	Health & Safety Plan	01540
01600	Delivery, Storage and Handling.....	01600
01700	Contract Closeout	01700

DIVISION II – SITE WORK02000

02060	Demolition	02060
02100	Site Preparation.....	02100
02207	Aggregate Materials.....	02207
02216	Topsoil and Topsoil Placement.....	02216
02220	Soil Erosion Control	02220
02260	Finish Grading	02260
02300	Earthwork.....	02300
02621	Geosynthetics.....	02621
02630	Site Drainage.....	02630
02930	Landscaping	02930
02975	Landscape Maintenance Period	02975

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1 LOCATION OF WORK

- A. The work associated with this Contract is located at Dolph Nature Area, adjacent to First Sister Lake, off of Parklake Avenue in Ann Arbor, Michigan. The site is located on property owned by the City of Ann Arbor.

1.2 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to provide construction of basin earthwork, seeding and planting, manhole installation, storm pipe installation, path installation, and all other work as indicated on the Drawings and as specified herein.
- B. The Work includes, but is not necessarily limited to, the following items.
 - 1. Mobilization.
 - 2. Acquire City of Ann Arbor soil erosion and control permit
 - 3. Development and Implementation of a Work Plan.
 - 4. Development and Implementation of Site access, staging, and control plan.
 - 5. Installation and maintenance of soil erosion and sediment control measures.
 - 6. Installation and maintenance of construction staking.
 - 7. Installation and maintenance of site protection.
 - 8. Preparing the site for work, including demolition and tree removal.
 - 9. Preparation and installation of basins.
 - 10. Installation of path.
 - 11. Installation of manhole and storm pipes.
 - 12. Re-vegetation
 - 13. Vegetation maintenance as shown in the contract documents
 - 14. Provide as-built of installed work.
 - 15. Site restoration.
 - 16. Demobilization and closeout.

1.3 WORK SEQUENCE

- A. The Work is to be performed as sequenced by the contractor. However, the following general sequence must be kept by the CONTRACTOR.
 - 1. Mobilize; install temporary fencing; acquire necessary permits; and install and maintain construction staking, and soil erosion and sediment control measures.
 - 2. All basin construction.
 - 2. Development of As-Builts.
 - 3. Demobilize including removal temporary fencing, site cleaning and restoration, seeding of area disturbed by the contractors work, removal of any control devices.
 - 4. Contract closeout.

1.4 CONTRACTOR'S USE OF PREMISES

- A. The CONTRACTOR shall restrict the stockpiling and storage to the upland areas

indicated on the plans or as directed by OWNER or ENGINEER.

- B. Access to the site shall be off Parklake Avenue.
- C. The CONTRACTOR shall maintain his construction operations including areas for field offices, staging, and storage of materials and equipment within the contract limits at locations approved by OWNER.
- D. The CONTRACTOR shall limit the use of premises for the work and shall coordinate the work with other contractors and OWNER.

1.05 OWNER OCCUPANCY

- A. OWNER will occupy premises during performance of the work for the conduct of the normal operations. Coordinate all construction operations with OWNER to minimize conflict and to facilitate OWNER usage.

1.06 COORDINATION

- A. It shall be the responsibility of the CONTRACTOR to coordinate his operations and those of his subcontractors in such a manner so as to avoid interference and delays in the areas of common construction activities.

1.07 RIGHT-OF-WAY JURISDICTION

The CONTRACTOR shall secure any permits required by the agency having jurisdiction, shall abide by rules and regulations of each and pay all cost in connection with the permits. The CONTRACTOR shall pay for such permits, plan review, and inspection fees as the agencies may charge to insure compliance with their requirements. All costs are considered incidental to the work.

1.08 WORKS HOURS

- A. No Work shall be allowed between the hours of 6:00 p.m. and 7:00 a.m. Monday through Saturday or Sundays or holidays, unless otherwise approved by the City of Ann Arbor.
- B. Holidays are defined as the following:
 - New Years Day
 - Memorial Day
 - Independence Day
 - Labor Day
 - Thanksgiving Day
 - Christmas Day

PART 2 PRODUCTS (NOT USED)
PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1 GENERAL
1.1 SCOPE OF WORK

This section details specific elements included in the allowances identified in the Bid form and in Section 01025, Measurement and Payment. The allowances shall be administered in accordance with the provisions of the General Conditions of the Contract. The CONTRACTOR shall be required to coordinate this work with the agency firm involved and pay all costs the agency firm may charge in connection with this work. If a markup is allowed on the allowance item, it will be identified so under that specific allowance. Thereafter, if the actual price for this work is more or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The CONTRACTOR shall be responsible for all coordination with the Agency involved and for the timely completion of the Work to fit his schedule. The CONTRACTOR shall not be allowed any additional compensation for the failure of the Agency involved to meet any schedule.

1.2 RELATED WORK

- A. Bid Form.
- B. General Conditions of the Contract.
- C. Section 01010, Summary of Work.
- D. Section 01025, Measurement and Payment.

1.3 SPECIFIC ALLOWANCE ITEMS

A. Unforeseen Site Conditions

The CONTRACTOR will be paid for additional work required due to differing and/or unforeseen site conditions. The payment for these additional work items will be made based on lump sum or time and materials prices negotiated between the CONTRACTOR and the OWNER. In the event that unforeseen physical conditions should be encountered on the Project, this allowance item shall be used to remedy the situation. The CONTRACTOR shall comply with all provisions of the Contract Documents when encountering and contending with an unforeseen physical condition. The ENGINEER may require the CONTRACTOR to furnish a written report from a certified professional supporting his proposed scope and method for handling the unforeseen physical condition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE OF WORK

This section describes the method of measurement and basis of payment for all items of work included in the Contract and listed in the Bid Form. The CONTRACTOR shall provide all labor, material, tools, equipment and services required to complete the Work as specified and as indicated on the Drawings. Permits may be required for the completion of the Work of this Contract. All necessary permitting shall be incidental to the cost of the Work. Testing may be required to verify compliance with the Contract Documents. All necessary testing shall be at cost to the Contractor, and therefore, shall be included in the cost to complete the Work as specified here within. THE OWNER ONLY WILL PAY FOR ITEMS ON THE BID FORM, AND WILL MAKE NO PAYMENT FOR ITEMS NOT INCLUDED ON THE BID FORM.

1.02 RELATED WORK

- A. Bid Form.
- B. Section 01010, Summary of Work.
- C. Section 01020, Allowances.
- D. Section 01310, Work Plan.

1.03 PAYMENT ITEMS

GENERAL

ITEM NO. 1 - Mobilization

Mobilization will be paid for at the Contract lump sum (LS) amount (not to exceed 5% of the total Contract Price). Price paid shall be payment in full for all labor, material, and equipment necessary for all preparatory work and operations, including but not limited to, the movement of personnel, equipment, supplies, and incidentals to the project site. Mobilization shall also include preconstruction costs, including permit fees and premiums for insurance and bonds, exclusive of bidding costs, which are necessary direct costs to the project and are of a generalized nature rather than directly attributable to other pay items under this Contract. This pay item shall also include all costs associated with De-Mobilization. This pay item shall include:

- the establishment of staging/storage areas;
- the establishment of construction facilities and temporary controls;

- obtaining and permit fee for all necessary SESC and/or other permits required for construction;
- installation and maintenance of construction fencing;
- installation of soil erosion and sedimentation controls;
- preparation of schedules and submittals (including Work Plan and Technical Work Plans);
- other work and operations which must be performed or for expenses incurred, prior to beginning work;
- Traffic Control as needed; and
- All costs associated with De-Mobilization.

Payment for mobilization will be based upon the following schedule:

Partial Payment Schedule

<u>Percentage of Total Contract Price Earned</u>	<u>Percentage of Bid Price for Mobilization Allowed</u>
5	50
10	75
25	100

ITEM NO. 2 – Construction Staking

Construction staking will be paid for at the Contract lump sum (LS) amount. Price paid shall be payment in full for all labor, material and equipment required for staking and maintaining staking in the project area as required to provide site control, control grading, and all other site activities during all stages of the Work in order to construct the project in conformance with the Contract Documents.

ITEM No. 3- Soil Erosion and Sediment Control

Soil Erosion and Sediment Control will paid for at the Contract lump sum (LS) amount. Price paid shall be payment in full for all labor, material and equipment required for providing soil erosion and sediment control measures in the project area as required to provide adequate protection from site runoff through sheet flow and/or into structures, and all other site activities, during all stages of the Work in order to construct the project within the boundaries shown on the Plans and in conformance with the Contract Documents.

ITEM No. 4- Traffic Control

Traffic Control will paid for at the Contract lump sum (LS) amount. Price paid shall be payment in full for all labor, material and equipment required for providing traffic control measures in the project area as required during all stages of the Work in order to construct the project within the boundaries shown on the Plans and in conformance with the Contract Documents.

ITEM NO. 5 – As Built Survey and Drawings

As-Builts will be paid for at the Contract lump sum (LS) amount. Price paid shall be payment for all labor, material, and equipment required for complete and submit as-built documents at completion of the work and shall include, but is not limited to:

- supply one set of marked up working drawings as marked up in the field during construction;
- supply three hard copies of as-built documents as conducted by a Professional Engineer or Surveyor;
- supply one digital copy of as-built survey as conducted by a Professional Engineer or Surveyor; and
- other items necessary to complete the work.

ITEM NO. 6 – Certified Payroll Compliance and Monitoring

This item will be paid at the Contract lump sum (LS) amount. Price paid shall be payment for all labor, material, and equipment required for complete and submit required documentation.

ITEM NO. 7 – Clearing and Grubbing

Clearing and grubbing will be paid for at the Contract lump sum (LS) amount. Price paid shall be payment in full for all labor, material and equipment required for clearing and grubbing and tree removal as shown in Drawings and shall include but is not limited to:

- removal of existing stumps, trees and brush at locations shown on the Drawings;
- sign removal and stockpile as directed by the City;
- bench removal, wall removal and path removal;
- removal of miscellaneous materials and debris within the project limits,
- disposal off-site of cleared and demolish materials as approved by the ENGINEER, and;
- all other items necessary to complete the work.

ITEM NO. 8 – Pipe Removal

Pipe Removal will be paid for at the Contract unit price (LF) amount. Price paid shall be payment in full for all labor, material and equipment required to perform pipe removal to the extent shown on the Drawings or as directed by the ENGINEER and shall include but is not limited to:

- excavation and sawcutting required for pipe removal;
- bulkheading of manhole structure as required;
- pipe removal;
- backfill of excavation as required;
- haul and legal disposal of demolition materials; and
- all other items necessary to complete the work.

ITEM NO. 9 – Manhole, Type III

Manhole will be paid for at the Contract unit price (EA), which price shall be payment in full for furnishing the materials, including the required fittings, frames, lids, grates, drop connections and steps, and for all labor, equipment and tools, all necessary excavation, backfilling, disposal of surplus material, and all work

incidental to the completed manhole.

- 48-inch diameter, slab (flat) top manhole
- EJ 1046Z Frame, or Engineer approved equal
- EJ 1040 M2 Trout Logo Grate, or Engineer approved equal

ITEM NO. 10 – Pipe, Concrete, 24-inch, Trench V

Pipe will be paid for at the Contract unit price (LF) amount. Price paid shall be payment in full for all labor, material and equipment required to furnish and perform the installation of the storm and drainage pipe to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- protection of existing improvements;
- protection of existing utilities;
- trench excavation;
- furnish and placement and compaction of pipe bedding;
- furnish and placement of 24" C76 CI IV storm sewer pipe;
- furnish and installation and compaction of backfill;
- connection and sealing of proposed 24" storm pipe to existing storm structures;
- furnish and installation of any fittings;
- provide certification and testing services as required;
- furnish and place compacted backfill; and
- All other items necessary to complete the work.

ITEM NO. 11 – Pipe Outlets, Concrete End Sections

Pipe Outlets shall be paid for on a Contract unit price (EA) amount. Price paid shall be payment in full for all labor, material and equipment required to furnish materials and perform installation of headwall replacement and end section replacement at storm sewer outlet to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- All grading required for the outlet ;
- Furnish and install concrete end section; and
- All other items necessary to complete the work.

ITEM NO. 12 – Earthwork

Earthwork will be paid for at the Contract lump sum (LS) amount. Price paid shall be payment for all labor, material, and equipment required to perform the excavation for the basin, rough and fine grading, grading for the overflow weirs to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- protection of existing improvements;
- protection of existing utilities;
- excavation of basin;
- dewatering
- disposal of excavated material in a legal manner off-site;
- rough and fine grading at basin
- rough and fine grading for outlets; and
- all other items necessary to complete the work.

ITEM NO. 13 –Topsoil

Topsoil shall be paid for on a Contract unit price (CY) amount. Price paid shall be payment in full for all labor, material and equipment required to perform topsoil placement at locations shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- furnish and install topsoil;
- final grading of topsoil;
- all other items necessary to complete the work.

ITEM NO. 14 –Erosion Control Blanket

Erosion Control Blanket shall be paid for on a Contract unit price (SY) amount. Price paid shall be payment in full for all labor, material and equipment required to perform erosion control blanket placement at locations shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- furnish and install erosion control blanket;
- all other items necessary to complete the work.

ITEM NO. 15–Riprap for Overflow and Aprons

Overflow will be paid for at the Contract unit price (CY) amount. Price paid shall be payment for all labor, material, and equipment required to perform the grading and placement of materials for the overflow and aprons to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- protection of existing improvements;
- protection of existing utilities;
- fine grading for overflow and aprons;
- furnish and install geotextile fabric for overflow and aprons;
- furnish and install riprap for overflow and aprons; and
- all other items necessary to complete the work.

ITEM NO. 16 – Fieldstone slabs

Fieldstone slabs will be paid for at the Contract unit price basis (EA). Price paid shall be payment in full for all labor, material and equipment required for installing as shown on Drawings and shall include but is not limited to:

- acquiring and hauling slabs to the site;
- furnish and install slabs as shown on the Drawings or as directed by Engineer, and;
- all other items necessary to complete the work

ITEM NO. 17 – Native Seed

Native Seed will be paid for at the Contract unit price (AC) amount. Price paid shall be payment for all labor, material, and equipment required to furnish and perform installation of seed, to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- soil erosion and sedimentation control;
- furnish and installation of seed mix;
- associated watering and fertilizing;

- a two-year warranty for plant survivability; and
- all other items necessary to complete the work.

ITEM NO. 18 – Turf Seed

Turf Seed will be paid for at the Contract unit price (AC) basis. Price paid shall be payment in full for all labor, material and equipment required to seed to the extent shown on the Drawings and using specified seed mixes and shall include, but is not limited to:

- soil erosion and sedimentation control;
- furnish and installation of seed mix;
- furnish and installation of erosion control blanket and/or mulch;
- associated watering and fertilizing;
- a two-year warranty for plant survivability; and
- all other items necessary to complete the work.

ITEM NO. 19 – Plugs

Plugs will be paid for at the Contract unit price for each (EA). Measurement shall be based on Contract Drawings and installation approved by ENGINEER. Price paid shall be payment in full for all labor, material and equipment required to install the plugs at the spacing and to the extents shown on the Drawings and shall include, but is not limited to:

- Acquiring and delivering plug material to the site;
- Acquiring approval for alternate species from ENGINEER prior to installation;
- Acquiring approval of delivered stock from ENGINEER prior to installation;
- Installing plugs at approximate spacing and locations shown on Drawings;
- Installing plugs using commonly accepted practices;
- 2-year warranty for plant survivability;
- All other items necessary to complete the work.

ITEM NO. 20 – Shrubs

Shrubs will be paid for at the Contract unit price basis for each (EA). Price paid shall be payment in full for all labor, material and equipment required to acquire and plant shrubs to the extent shown on the Drawings and using specified installation techniques and shall include, but is not limited to:

- Acquiring and delivering shrubs to the site;
- Acquiring approval for alternate shrub species from ENGINEER prior to installation;
- Acquiring approval of delivered stock from ENGINEER prior to installation;
- Installing shrubs at approximate spacing and locations shown on Drawings;
- Use of acceptable planting techniques;
- Coordination with any other landscaping or site work;
- 2-year maintenance and warranty;
- All other items necessary to complete the work.

ITEM NO. 21 – Path

Path will be paid for at the Contract unit length (LF) amount, measured along the

centerline. Price paid shall be payment in full for labor, materials, and equipment required install the Path. This shall include, but is not limited to:

- all excavation and grading required for the path;
- furnishing and installation of compacted aggregate base;
- compaction as required;
- testing services as required; and
- all other items necessary to complete the work.

ITEM NO. 22 – Site Restoration

Site Restoration will be paid for at the Contract lump sum (L.S.) amount. Price paid shall be payment for all labor, material, and equipment required for complete site restoration and shall include but is not limited to:

- grading, furnish and placement of topsoil of disturbed areas
- disking/tilling as necessary to create a suitable seedbed area;
- seeding disturbed areas;
 1. soil testing
 2. furnish and install topsoil
 3. furnish and install seed
 4. furnish and install erosion control measures/mulching
 5. associated watering and fertilizing
- removal temporary fencing/gates;
- removal of construction and silt fencing; and
- cleaning.

ITEM NO. 22 – Landscape Maintenance

Landscape Maintenance shall be paid for on a Contract unit price amount (MO). Price paid shall be payment in full for all labor, material and equipment required to perform vegetation maintenance as needed for remedying conditions during the growing season, to the extent shown on the Drawings or as directed by the ENGINEER and shall include, but is not limited to:

- soil erosion and sedimentation controls;
- associated watering;
- invasive species removal; and,
- all other items necessary to complete the work.

ITEM NO. 23 – Allowance for Unforeseen Site Conditions

Unforeseen Site Conditions will be paid for at the negotiated price after the Work has been authorized by the ENGINEER. Price paid shall be payment in full for all labor, material, and equipment required for remedying unforeseen physical conditions and shall be based upon an agreement negotiated and approved prior to beginning this Work.

PART 2 PRODUCTS (NOT USED)
PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01040

COORDINATION

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. The CONTRACTOR shall coordinate work under this Contract with other day-to-day operation and maintenance activities carried out by OWNER.
- B. The CONTRACTOR shall coordinate activities under this contract to allow for use of the park and its amenities.
- C. The CONTRACTOR shall coordinate his work with the construction testing that is required throughout the project. CONTRACTOR shall provide access and assistance to the testing agency in order to perform the required testing.

1.2 GENERAL PROVISIONS

- A. Cooperate with OWNER in the use of the site for parking, storage areas, and traffic.
- B. During construction, coordinate use of site and facilities through the ENGINEER.
- C. Comply with the ENGINEER's procedures for Project communications, submittals, reports and records, schedules, and coordination drawings.
- D. Comply with instructions of OWNER for use of temporary utilities.
- E. Coordinate scheduling, and submittals, to assure efficient and orderly sequence of the Work.
- F. Coordinate sequence of Work to accommodate OWNER occupancy and to minimize disruptions to the two homes adjacent to the site.
- G. In addition to progress meetings hold coordination meetings and pre-construction conferences with personnel and subcontractors to assure coordination of the Work. The ENGINEER shall be informed of these meetings in advance.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

- A. The CONTRACTOR will shall provide clear access adjacent park areas, as needed Assistance if construction is to temporarily interfere with these areas.
- B. The CONTRACTOR will shall provide access and assistance to the testing agency in order to perform the required testing. The CONTRACTOR shall provide 48 hours notice to the ENGINEER/OWNER prior to any testing requirements.

END OF SECTION

SECTION 01200
PROJECT MEETINGS

PART 1 GENERAL
1.1 SCOPE OF WORK

- A. Preconstruction conference.
- B. Progress meetings.

1.2 PRECONSTRUCTION CONFERENCE

- A. Following the Notice of Award, the ENGINEER will schedule a preconstruction conference with Contractor, Owner and Engineer.

1.4 PROGRESS MEETINGS

- A. The ENGINEER will schedule and administer official weekly progress meetings, as warranted.
- B. Attendance: CONTRACTOR, subcontractors and suppliers as required, the OWNER, his representatives, the ENGINEER, his representatives, and consultants as appropriate.
- C. Minimum Agenda:
 - 1. Progress of Work in relation to schedule.
 - 2. CONTRACTOR's marked-up schedule.
 - 3. CONTRACTOR's payment estimate.
 - 4. Work progress and performance.
 - 5. Field observations, problems, and conflicts.
 - 6. Off-site and on-site fabrications, inspections and delivery schedules.
 - 7. Corrective measures and procedures.
 - 8. Planned progress and schedule during succeeding work period.
 - 9. Coordination of schedules.
 - 10. Submittals required.
 - 11. Maintenance of quality standards.
 - 12. Proposed changes; effect on construction schedule.
 - 13. Any other appropriate items or subjects which require the attention and attendance of the CONTRACTOR with regard to the progress of the Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies the requirements for the following submittals: Shop Drawings, Product Data, Samples, and Construction and Shop Drawing Submittal Schedules.
- B. All submittals shall be clearly identified by reference to Section Specification number, Paragraph, and Drawing number as applicable. Submittals shall be clear and legible and of sufficient size for clear presentation of data.

1.2 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, TECHNICAL WORK PLANS

A. Shop Drawings

- 1. Shop drawings, as defined in the General Conditions, and as specified in individual Specification Sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shopwork manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the Work.
- 2. All shop drawings submitted by subcontractors for approval shall be sent directly to the CONTRACTOR for checking. The CONTRACTOR shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
- 3. Check all subcontractor's shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the Drawings and related Specification Sections. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission thereof.
- 4. All details on shop drawings submitted for approval shall show clearly the relation of the various parts to the main members and lines of the structure and where correct fabrication of the work depends upon field measurements; such measurements shall be made and noted on the shop drawings before being submitted for approval.

B. Product Data

- 1. Product data as specified in individual Specification Sections, include, but are not necessarily limited to, standard prepared data for manufactured

products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work.

C. Samples

1. Samples specified in individual Specification Sections, include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the ENGINEER or OWNER for independent inspection and testing, as applicable to the work.

- D. The following Technical Work Plans shall be developed by the CONTRACTOR prior to initiating the Work covered by the Technical Work Plans. The Plans shall be submitted for review and approval and shall include: descriptions of CONTRACTOR's proposed means and methods; materials, products, and equipment data; assumptions, design data, and calculations; sketches, and fabrication and working drawings, sequence of work; and contingency plans. All designs and calculations included in the Plans shall be stamped by a Professional Engineer registered in the State of Michigan.

1. Soil Erosion and Sedimentation Control Plan.
2. Site Drainage Controls Plan
3. Delivery and Removal Schedule

1.3 CONTRACTOR'S RESPONSIBILITIES

- A. The CONTRACTOR shall review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

- B. Each shop drawing, sample and product data submitted by the CONTRACTOR shall have affixed to it the following Certification Statement including the CONTRACTOR's company name and signed by the CONTRACTOR: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog

numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements." Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. The CONTRACTOR shall provide to the Resident Project Representative a copy of each submittal transmittal sheet for shop drawings, product data and samples at the time of submittal of said drawings, product data and samples to the ENGINEER.

- C. Project work, materials, fabrication, and installation shall conform to approved shop drawings, applicable samples, and product data.

1.4 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work or in the Work.
- B. Each submittal, appropriately coded, will be returned within 30 calendar days following receipt of submittal by the ENGINEER.
- C. Number of submittals required:
 - 1. Shop Drawings as defined in Paragraph 1.02A: Three copies.
 - 2. Product Data as defined in Paragraph 1.02B: Three copies.
 - 3. Samples: Submit the number stated in the respective Specification Sections.
- D. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number.
 - 3. Contractor identification and certification.
 - 4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the Specification Section number, page and paragraph(s).
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of the Work or materials.
 - 8. Applicable standards (such as ASTM, MDOT, or Federal Standards numbers.)
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. A blank space suitably sized for ENGINEER stamp.
- E. Substitutions: Whenever a particular brand or make or type of material, equipment, or other item is specified or is indicated on the Contract Drawings, it is for the

purpose of establishing a standard of quality, design, and type desired and to supplement the detailed specifications. Any other brand or make or type which in the opinion of the Engineer is equivalent to that specified or indicated may be offered as a substitute, subject to the following provisions:

- (1) Contractor shall submit for each proposed substitution sufficient details, complete descriptive literature and performance data together with samples of the materials where feasible to enable the Engineer to determine if the proposed substitution is equal to that specified.
- (2) Contractor shall submit certified tests where applicable by an independent laboratory, acceptable to the Owner, attesting that the proposed substitution is equal.
- (3) A list of installations where the proposed substitution is used.
- (4) Requests for substitutions shall include full information concerning differences in cost, and any savings in cost resulting from such substitutions shall be passed on to the Owner.
- (5) Where the approval of a substitution requires revision or redesign of any part of the work, all such revision and redesign and all new drawings and details required, therefore, shall be provided by the Contractor at his own cost and expense and shall be subject to the approval of the Engineer.
- (6) In all cases, the Engineer shall be sole judge as to whether a proposed substitution is to be approved. The Contractor shall abide by the Engineer's decision when proposed substitute items are judged to be unacceptable and shall in such instances furnish the item specified or indicated. No substitute items shall be used in the work without approval of the Engineer.

1.5 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, TECHNICAL WORK PLANS WORKING DRAWINGS AND SAMPLES

- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 1. as permitting any departure from the Contract requirements;
 2. as relieving the CONTRACTOR of responsibility for any errors, including details, dimensions, and materials;
 3. as approving departures from details furnished by the ENGINEER, except as otherwise provided herein.
- B. The CONTRACTOR remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
- C. If the shop drawings, data or samples as submitted describe variations and show a

departure from the Contract requirements which ENGINEER finds to be in the interest of the OWNER and to be so minor as not to involve a change in Total Contract Price or Contract Time, the ENGINEER may return the reviewed drawings without noting an exception.

D. Submittals will be returned/noted to the CONTRACTOR as.

"APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the CONTRACTOR may release the equipment and/or material for manufacture.

"APPROVED AS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the CONTRACTOR. The CONTRACTOR may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.

"APPROVED AS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the ENGINEER within [15] calendar days of the date of the ENGINEER's transmittal requiring the resubmittal.

"NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The CONTRACTOR must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

"COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the CONTRACTOR.

E. Resubmittals will be handled in the same manner as first submittals. On resubmittals the CONTRACTOR shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the ENGINEER, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the CONTRACTOR. The CONTRACTOR shall make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the ENGINEER.

F. Partial submittals may not be reviewed. The ENGINEER will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the CONTRACTOR and will be considered "Not Approved" until resubmitted. The ENGINEER may at his/her option provide a list or mark the submittal directing the CONTRACTOR to the areas that are incomplete.

- G. If the CONTRACTOR considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the CONTRACTOR shall give written notice thereof to the ENGINEER at least 7 working days prior to release for manufacture.
- H. When the shop drawings have been completed to the satisfaction of the ENGINEER, the CONTRACTOR shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.

1.06 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed six (6).

1.07 SHOP DRAWING SUBMITTAL SCHEDULE

- A. Provide shop drawing submittal schedule required in Specification Section 01310, Work Plan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01310

WORK PLAN

PART 1 GENERAL 1.1 SCOPE OF WORK

- A. The CONTRACTOR shall submit a Work Plan demonstrating fulfillment of all Contract requirements. The Work Plan shall be kept up to date in accordance with the requirements of this Section. The Work Plan shall be utilized for planning, scheduling, coordinating, and monitoring Work under this Contract, including but not limited to all activities of subcontractors, equipment vendors, suppliers, and approvals of the OWNER and of other agencies.
- B. This Specification also requires the CONTRACTOR to associate the Schedule of Values with the Work Plan; that the CONTRACTOR use the Work Plan to assist the OWNER in evaluating progress of the Work and in making payments for Work performed; and that the **CONTRACTOR prepare record drawings** and data showing how the Work is/was.

1.2 GENERAL PROVISIONS FOR DEVELOPMENT OF A WORK PLAN

- A. The CONTRACTOR shall prepare a detailed Work Plan consisting of a Schedule and Schedule of Values (SOV). In addition, the work plan shall include a detailed narrative, sketches, product data and other information describing details of the CONTRACTOR's means and methods to complete the work.
- B. All costs incurred by the CONTRACTOR to correctly develop, implement, coordinate, and administer the Work Plan shall be borne by the CONTRACTOR and shall be included in his bid and become part of his Contract. The CONTRACTOR shall be responsible for all his subcontractors and suppliers in the implementation of the Work Plan.
- C. The CONTRACTOR shall provide within one week after Notice to Proceed the Work Plan. This representative of the CONTRACTOR shall have direct project control and complete authority to act on behalf of the CONTRACTOR in fulfilling the commitments shown in the Work Plan.
- D. The OWNER or OWNER'S representative will be the final judge as to the acceptability of the Work Plan and is empowered under the terms of the Contract to call upon the CONTRACTOR to reschedule his Work and remedy the functioning of the systems whenever deficiencies of whatever nature occur during the course of the Work. Refusal by the CONTRACTOR to maintain the progress of his work consistent with the Schedule included in the Work Plan shall be interpreted as an obvious delay of the Contract by the CONTRACTOR. Adherence to the established Schedule shall be obligatory upon the CONTRACTOR and his subcontractors for the Work under this Contract.

- E. Review of the CONTRACTOR's Schedules will be only for conformance with the Contract Times, and those sequences of Work indicated in or required by the Contract Documents. The review, comments, and exceptions taken, if any, shall not, extend to, nor will constitute directions nor approval of, the means, methods, techniques, sequences, or procedures of construction or safety precautions, the corrections of which shall be the sole responsibility of the CONTRACTOR.
- F. Approval of the CONTRACTOR's Work Plan shall not relieve the CONTRACTOR of any responsibilities otherwise designated under the Contract. Approval of a Schedule with undisclosed variations or errors such as omitted Work or erroneous sequences will not relieve the CONTRACTOR from completing the omitted or impacted Work within the Contract Time(s) at no change in the Contract Price.

1.3 SCHEDULE

- A. A Schedule representing all Work under this Contract and all interfaces required with each other contracts shall be prepared and submitted by the CONTRACTOR. This schedule shall show in sufficient detail the priority, sequencing and interdependence of activities and the sequence in which the Work is to be accomplished as planned by the CONTRACTOR. When completed, the Schedule shall represent the CONTRACTOR's own plan for the Project, consistent with Contract requirements.
- B. It shall be the CONTRACTOR's responsibility to ensure that all of his Work is described by the Schedule and that the schedules do correctly represent the sequence, means, methods, techniques, and procedures for completing his Work. In preparing the Schedule, the CONTRACTOR shall:
 - 1. Verify site conditions that may in any manner affect cost, progress, scheduling, performance, and furnishing of the Work.
 - 2. Work with all major Subcontractors and Suppliers to obtain information on activities, sequencing, and activity durations for incorporation into the Schedule.
- C. The Schedule shall show sufficient detail for Work activities to clearly identify, separately and individually, those factors that may in any manner affect the cost, schedule, progress, performance, and furnishing of the Work. At a minimum, the activity breakdown shall delineate the following:
 - 1. Work associated with the CONTRACTOR's installation, erection, and other field construction activities for the Contract.
 - 2. Items pertaining to the approvals of regulatory agencies for permits and approvals.
 - 3. The time required for the review and approval of shop drawings and schedules.
 - 4. All special Work sequences, schedule milestones, intermediate Contract Times, named allowances set forth in the Contract Documents.
 - 5. Women's Business Enterprise (WBE) Work activities and Minority Business

Enterprise (MBE) Work activities shall be clearly identified on the Schedule.

- D. Activity durations shall be in calendar days and represent the CONTRACTOR's single best estimate based on the Work included and the resources planned for that activity.
- E. Supporting data shall be submitted in the form of a narrative and shall include:
 - 1. The status of the Schedule in terms of number of calendar days ahead or behind the Contract Time(s).
 - 2. The progress status (i.e., progress achieved versus that forecasted) for:
 - a. Activities designating accomplishment of Substantial Completion milestones.
 - b. Critical and other significant activities.
 - c. Work related to achieving milestones set forth the Work Sequencing indicated in or required by the Contract Documents.
 - 3. The assumptions made in incorporating Work related to pending or authorized Change Orders.
 - 4. Actual or potential delays, including causes, the steps taken or anticipated to mitigate their impact and the anticipated effect on the Schedule as a whole.
 - 5. Any significant changes in Schedule sequences, and their basis thereof.
 - 6. OWNER activities that becomes due over the next month for CONTRACTOR to maintain the Schedule.
 - 7. CONTRACTOR's responses to comments raised in the review of the previous Schedule submittal.
 - 8. Actions taken to address schedule non-compliance.
- F. Any float in the CONTRACTOR's approved schedule belongs to the project, not the CONTRACTOR. The CONTRACTOR shall not be entitled to additional compensation due to loss of float caused by weather; wet conditions, lack of surface or groundwater controls, high or ponded water in work areas, coordination or for any other reason.

1.4 SCHEDULE OF VALUES (SOV)

- A. The Schedule of Values shall be a tabulation of each activity of the Schedule listed and the associated cost of each activity. The cumulative cost of all activities shall equal the total Contract price.
- B. The cost of the unit price items shall be broken down sufficiently to allow for a determination of progress and shall be equal to the sum of costs of the activity related to that item. The Schedule of Values, once approved, shall become the basis for progress payments under this Contract and cannot thereafter be changed without written approval.
- C. Identify Schedule of Values with:
 - 1. Title of Project and location.

2. Project number.
 3. Name and Address of CONTRACTOR.
 4. Contract designation.
 5. Date of submission.
- E. Schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- F. Identify each line item with the number and title of the respective major section of the specifications.
- G. For each major line item list subvalues of major products or operations under the item.
- H. For the various portions of the Work:
1. Each item shall include a directly proportional amount of the CONTRACTOR's overhead and profit.
 2. For items on which progress payments will be requested for stored materials, break down the value into the cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials upon request.

1.05 COMPLETE WORK PLAN

- A. Within one (1) week after the Notice to Proceed, the CONTRACTOR shall deliver for review and acceptance, five (5) copies of the complete Schedule.

1.06 PROGRESS REPORTING

- A. Monthly the CONTRACTOR will submit a "Marked-Up" Schedule, a "Marked-Up" Schedule of Values, and a Supporting Schedule Narrative, showing the anticipated status of each activity as of the schedule payment cut-off date. The "Marked-Up" Schedule shall be the latest version of the Schedule on which "Updates" and, where applicable, "Revisions" are displayed.
- B. If the CONTRACTOR refuses, fails, or neglects to provide the required Schedules or related data pricing and Shop Drawings, and schedule recovery data:
1. The CONTRACTOR will be deemed not to have provided sufficient information upon which progress can be evaluated, and refusal to recommend the whole or part of any outstanding payment if it would be incorrect to make such representations to the OWNER.
 2. The OWNER may perform, or may hire a specialist to perform, the Schedule, analysis and those parts deemed to be lacking, inadequate, or insufficient. The cost for this extra work by the OWNER will be charged against any future progress payment due to the CONTRACTOR.

- C. At the progress meeting a review of the current status of the Work and the progress during the monitoring period will be made utilizing the "Marked-Up" Schedule.
- D. In the event of a dispute regarding the percentage of Work completed cannot resolve at the meeting, the OWNER's representative will use his sole judgment in representing the quantity and fair value of the Work completed for those activities in dispute.
- E. Utilizing the information on the "Marked-Up" Schedule, the CONTRACTOR shall change the original or previous version of the Schedule. Changes to the Schedule shall be identified as Updates or Revisions numbered sequentially.

1.07 SCHEDULE COMPLIANCE

- A. Whenever it appears from the current monthly Schedule that delays have resulted so that the Date of Substantial Completion will not be achieved or whenever directed, the CONTRACTOR shall submit a written statement. This statement shall describe the actions, activities, and steps he intends to take to remove, prevent, or arrest any delay in the approved schedule and, at no cost to the OWNER, the CONTRACTOR shall take one or more of the following actions:
 1. Increase construction labor and manpower in such quantities and crafts that will substantially eliminate the delay to the Work.
 2. Increase the number of working hours per shift; shifts per work day per week; the amount or type of construction equipment; or any appropriate combination of working hours, shift, or equipment that shall substantially eliminate the delay to the Work.
 3. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities including, but not limited to, such actions as overlapping of dependent activities, sequencing changes to accommodate increased activity concurrency, assignment of additional labor or equipment, shift or overtime Work, expediting of submittals or deliveries, or any combination of the foregoing, and comply with the revised schedule.
- B. If the CONTRACTOR refuses, fails, or neglects to submit written statement, pursuant to Paragraph A, above, the OWNER'S representative may direct the level of effort in labor and manpower, equipment, and Work schedule including, but not limited to, overtime, weekend, and holiday Work to be utilized or employed by the CONTRACTOR to remove, prevent, or arrest the delay to the critical path in the approved schedule. After notification the CONTRACTOR shall promptly provide such level of effort in labor and manpower, equipment, and Work schedule at no additional cost or expense to the OWNER.

1.08 REVIEW OF SCHEDULES

- A. Review of schedule submittals will be predicated on a CONTRACTOR's stamp of approval signed by the CONTRACTOR. CONTRACTOR's stamp of approval on the Schedule shall constitute a representation to the OWNER that the CONTRACTOR

has either determined or verified data on the Schedule, or assumes full responsibility for doing so, and that CONTRACTOR and his subcontractors have reviewed and coordinated the sequences shown in the Schedule with the requirements of the Work under the Contract Documents.

- B. The review will not be intended to be for the purpose of determining the accuracy of other matters that may be contained in the Schedules. When the review of a Schedule results in a number of comments or exceptions taken, the review does not warrant that these comments are inclusive of all variations, as it shall remain the responsibility of the CONTRACTOR to the requirements of the Contract Documents and to identify expressly any proposed variations.
- C. Review of the schedules shall not relieve CONTRACTOR from responsibility for any variations from the Contract Documents unless CONTRACTOR has written by means of a specific notice, called the OWNER's attention to each variation, and written approval has been given of each such variation by a specific written notation thereof incorporated in or accompany the schedules.
- D. Approval of the schedules will not relieve the CONTRACTOR from responsibility for errors and omissions in the submittals or from responsibility for having complied with the provisions above. Approval of a schedule with undisclosed variations or errors such as omitted Work or erroneous sequences will not relieve the CONTRACTOR from completing the omitted or impacted Work within the applicable Contract Time(s).
- E. If the CONTRACTOR considers any comment indicated on the returned schedules to constitute an order to change the Contract Documents, he shall notify the OWNER immediately in accordance with the requirements for notices of apparent changes.
- F. Review of a submittal/resubmittal will occur a maximum of two times, after which the cost of the review shall be borne by the CONTRACTOR. The cost of additional reviews will be equal to the charges to the OWNER.
- G. No partial submittals will be reviewed. Submittals not complete will be returned to the CONTRACTOR for resubmittal.

1.9 ALTERNATIVES

- A. Proposals from the CONTRACTOR to substitute means, methods, techniques, Work sequences, or procedure of construction indicated in or required by the Contract Documents that affect the selection of activities and sequences in the Schedule shall be submitted in accordance with the General Conditions. The CONTRACTOR agrees and understands that application for such substitution will not be considered until after the CONTRACTOR has submitted and an approved Complete Work Plan as provided by these Contract Documents.
- B. Schedules anticipating achievement of Substantial Completion ahead of the

corresponding Contract Time, and therefore incorporating Contract Float Time for the Work, or parts thereof, shall be considered equivalent or equal to Schedules anticipating Substantial Completion exactly on Contract Time.

- C. Upon approval of a Schedule with Contract Float Time, and if the CONTRACTOR proposes that compensation for delay must be measured from the anticipated early schedules ahead of the Contract Time, the CONTRACTOR agrees and understands that said proposal will represent to the OWNER that the approved Schedule be evaluated as a substitute Schedule for the purposes of changing the Contract Time to that supported by the approved CONTRACTOR's Schedule. Evaluation of that substitution will be in accordance with the General Conditions, and the Supplementary Conditions, and will require additional supporting data explains and substantiates the basis of the anticipated early schedule.

1.10 TIME ALLOWANCE REQUIREMENTS

It is understood that the CONTRACTOR has included in the Total Contract Price the effect of accommodating all of these time allowances and requirements in the planning, scheduling, and execution of the Work; that the CONTRACTOR's Work plan will incorporate activities and sequences contemplated by the time allowances based on the information indicated in or required by the Contract Documents; and that the CONTRACTOR shall cause the Work or requirements covered by such time allowances to be done within the limits of the Contract Time.

PART 2 PRODUCTS (NOT USED)
PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01330

CONSTRUCTION STAKING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The CONTRACTOR is responsible for construction staking of the work and shall set stakes and markers in the work area as required to control all work including path installation, basin installation, utility installation, and revegetation or any other work as required to complete the project. It shall be the responsibility of the CONTRACTOR to transfer the required surface line and grade for any construction work from the Drawings to the construction areas.
- B. The CONTRACTOR shall utilize batter-boards with strings, lasers, or surveying instruments operated by qualified competent personnel to control the construction Work. If the method being used by the CONTRACTOR fails to give proper alignment and grade control to the Work, use such other method(s) as will provide adequate control.
- C. The CONTRACTOR, at the CONTRACTOR's expense, may be required to provide such masts, scaffolds, batter-boards, straightedges, templates, or other devices as may be necessary to facilitate laying out, inspecting and constructing the Work.

1.02 RELOCATION AND RE-ESTABLISHMENT

- A. Where change of location of stakes is required by the CONTRACTOR, or where the CONTRACTOR fails to properly preserve construction survey stakes, such resetting or relocations of stakes shall be done by the CONTRACTOR at no additional cost to OWNER.
- B. The CONTRACTOR shall bear all expenses involved in re-establishing and/or resetting any survey control point, land survey point or monument lost or disturbed during his/her construction operation. Such Work shall be done under the direct supervision of a licensed land surveyor.

1.03 STAKING REQUIRED

- A. The CONTRACTOR is required to stake the areas in a grid pattern to maintain control of the grading work.
- B. Staking of any pipes or other structures uncovered during construction processes.
- C. The CONTRACTOR is required to stake locations of all structures.
- D. The CONTRACTOR is required to stake locations of all revegetation areas, including seeding and planting zones and individual woody plant locations.
- E. Staking of construction of layout and grading.
- G. Staking of all other elements required to properly control all site construction activities to ensure construction of project as required by the contract documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. Quality assurance - control of construction
- B. Tolerances.
- C. References.
- D. Inspecting and testing laboratory services.
- E. CONTRACTOR'S field services and reports.

1.2 QUALITY ASSURANCE - CONTROL OF CONSTRUCTION

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Works of specified quality.
- B. Comply with specified standards as minimum quality for Works except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform by persons qualified to produce workmanship of specified quality. Use persons licensed to perform Works where required by these Specifications or Laws and Regulations.
- D. Secure products and Works in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- E. Materials furnished and finished or intermediate stages of Works shall be sampled, tested, and inspected as specified individual Sections of these Specifications and as required by reference standards.
- F. Performance of tests or observations by ENGINEER or OWNER is sole benefit of ENGINEER and OWNER and are not intended to replace CONTRACTOR's quality control program. CONTRACTOR is solely responsible for establishing and implementing quality control program to ensure that Works are in accordance with Contract Documents. Testing and as specified in the contract documents is the requirement of the CONTRACTOR.
- G. It is CONTRACTOR's responsibility to notify ENGINEER when CONTRACTOR believes Works (or intermediate stages or parts of Works) are of specified quality and to permit ENGINEER or OWNER to perform independent tests or analyses.
- H. Testing by ENGINEER or failure to detect defective work shall not prevent rejection when defect is discovered, nor shall it obligate OWNER for final acceptance.

1.3 TOLERANCES

- A. Monitor tolerance control of installed products to produce acceptable Works. Do not permit tolerances to accumulate.
- B. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of specified standard, except when more rigid requirements are specified or required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Notice of Award, except where specific date established by code or by individual specification Section.
- C. Contractual relationship, duties, and responsibilities of parties in Contract and those of ENGINEER shall not be altered from Contract Documents by mention or inference otherwise in any reference document.
- D. Publications referred to in these Specifications form part of Specifications to extent specified in individual specification Sections.
- E. All plant materials shall comply with the American Nurseryman Association standards for quality control.

1.5 INSPECTING AND TESTING LABORATORY SERVICES

- A. OWNER may direct the CONTRACTOR to obtain services of an independent inspecting and testing firm to perform inspections, tests, or approvals required by Contract Documents except as otherwise specifically provided in Contract Documents.
- B. Employment of independent inspecting and testing firm and services performed by such firm in no way relieves CONTRACTOR of obligation to perform Works in accordance with requirements of Contract Documents.
- C. Independent firm selected by OWNER will perform inspections, tests, and other services specified in individual specification Sections and as required by ENGINEER or OWNER.
- D. Inspecting, testing, and source quality control may occur on or off Site.
- E. Reports shall be submitted by independent firm to ENGINEER, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

- F. Cooperate with personnel of independent inspecting and testing firm, and provide safe access to Works.
- G. Provide incidental labor and facilities.
 - 1. To provide access to Works to be tested.
 - 2. To obtain and handle samples at Site or at source of products to be tested.
 - 3. To facilitate tests and inspections.
 - 4. To provide storage and curing or preservation, as required, of test samples.
- H. Notify ENGINEER and independent firm 48 hours prior to expected time for operations requiring inspecting and testing services.
- I. Retesting required because of non-conformance to specified requirements will be performed by the same independent firm on instructions by ENGINEER.
- J. If defects or deficiencies are revealed during testing or inspecting, correct such defects and deficiencies.

1.6 INSPECTING AND TESTING BY CONTRACTOR

- A. Perform tests and inspections as specified in individual specification Sections or as necessary to verify compliance with Contract Documents.
- B. For inspecting and testing of soils and rock, comply with requirements of ASTM D3740-Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. Laboratory: Authorized to operate in State of Michigan.

1.7 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, test, adjust, and calibration of equipment, and to initiate instructions when necessary.
- B. Submit qualifications of observer to ENGINEER 30 days in advance of required observations. Observer subject to approval of ENGINEER.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

- D. Submit report in duplicate within 30 days of observation to ENGINEER for information.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SCOPE OF WORK

Furnish, install and maintain temporary facilities required for construction; remove upon completion of the Work unless otherwise specified.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code, OSHA, MIOSHA, and City of Ann Arbor codes.

1.3 TEMPORARY POWER

- A. The CONTRACTOR shall make his own arrangements to provide power distribution as required throughout the Project. Termination of power distribution for each voltage shall be in convenient locations. The CONTRACTOR shall provide at each termination, circuit breakers, disconnect switches, and other electrical devices as required to protect the power supply system.
- B. All temporary equipment and wiring for power shall be in accordance with the applicable provisions of governing codes, and shall be subject to inspection and approval of the local Department of Buildings and Safety Engineering. Temporary wiring shall be maintained in a safe condition and shall be utilized so as not to create a hazard to persons or property.
- C. When permanent electrical power and lighting systems are in operating condition, they may be used for temporary power and lighting for construction purposes provided that the CONTRACTOR:
 - 1. Obtains the approval of the OWNER.
 - 2. Assumes full responsibility for power and lighting systems.
 - 3. Installs necessary meters and pays all costs for operation and restoration of the systems and for all electrical power consumed.

1.4 TEMPORARY LIGHTING

- A. The CONTRACTOR shall install and maintain a temporary lighting system as required to satisfy minimum requirements of safety and security.
- B. The CONTRACTOR shall make all necessary applications, obtain and pay for required permits for the temporary service and pay all fees and charges for the electrical energy used.
- C. The CONTRACTOR shall furnish all wiring, switches, fuses, receptacles, lamps and

other temporary electric and light equipment, as may be required for his Work. Temporary power and light circuits shall be thoroughly insulated and waterproof. No voltage higher than 120 volts shall be used on any lighting circuitry, unless specifically approved by the OWNER. All 15 and 20 ampere receptacle outlets on single-phase circuits shall have approved ground fault circuit protection. All switches shall be of the enclosed safety type. The temporary lighting system shall be subject to inspection and approval of the local Department of Building and Safety Engineering.

1.5 TEMPORARY SANITARY REQUIREMENTS

- A. Committing a nuisance on the Site is prohibited and any employee who violates such provisions shall be promptly removed from the Work and shall not again be employed on the Work without the written consent of the OWNER. At the start of the Work, suitable and adequate toilet facilities shall be provided for all employees, subject to the approval of the OWNER as to the type, size, and location. All temporary sanitary facilities cost is the responsibility of the CONTRACTOR.

1.6 TEMPORARY FIRST-AID

- A. A completely equipped first-aid kit shall be provided and maintained in a clean and orderly condition at the Site of each location where Work is progressing. The first-aid kit shall be readily accessible at all time where people are employed on the Work. The required number of employees who have been properly instructed shall be designated in charge of first-aid Work. The CONTRACTOR shall designate a responsible person on site who shall be in charge of administering first aid when needed.
- B. Telephone numbers for summoning aid from the Police Department, the Fire Department, physicians, ambulances, inhalator, and rescue squads from outside sources shall be conspicuously posted at each Site of the Work.
- C. Provide portable UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide portable UL-rated Class ABC dry chemical extinguishers or a combination of NFPA recommended Classes for the exposure. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

1.7 TEMPORARY CONSTRUCTION

- A. If during construction, existing fences are damaged or destroyed, the CONTRACTOR shall restore them. The CONTRACTOR shall bear all expense and supply whatever labor and material necessary to restore these fences, at no change in Contract sum.
- B. Complete or partial bulkheads or temporary dams may be built as an aid to the construction operations when approved as to location, type, and size. Such

bulkheads or dams shall be removed prior to the completion of the Work.

- C. The CONTRACTOR shall, where necessary, construct and maintain temporary access roads and drives to all construction facilities with approval by the OWNER. The areas to be restored shall be compatible with the adjacent undisturbed areas.
- D. The CONTRACTOR shall complete all restoration Work as soon as possible so as to cause a minimum of interference with the normal usage of the land by OWNER for the control of soil erosion and siltation. The restoration or reconstruction of drainage structures and other facilities shall be performed as soon as practicable and in cooperation and compliance with the OWNER.
- E. All temporary construction facilities shall be neatly constructed and arranged on the Site in an orderly manner. The general arrangement of such facilities shall be subject to approval by the OWNER. The CONTRACTOR shall prepare and submit to the OWNER, for approval prior to starting Work, a construction plan layout, showing arrangement of storage areas, temporary buildings, construction equipment, and storage and Work areas. Suitable, weather-tight storage sheds with raised floors shall be provided of capacity required as specified to contain all materials that might be damaged by storage in the open.
- F. Construction equipment and other facilities such as ladders and ramps shall be strong, substantial, safe and suitable for the purpose intended and shall meet all the applicable requirements of the State of Michigan and the authorities having jurisdiction in the area of the Work.
- G. When temporary building, construction equipment, and other facilities are no longer needed for the Work, they shall be promptly dismantled and removed from the Site.
- H. Some aspects of the Contract may necessitate temporary removal of portions of the property fence. The CONTRACTOR shall provide temporary fencing in order to maintain the security of the site.

1.8 EXISTING UTILITIES

- A. Some underground utilities and underground structures such as pipe lines, electric conduit, and sewers may be shown on the Drawings. Although neither the correctness nor the completeness of such information is guaranteed by the OWNER, the information shown is considered to be reasonably correct and complete.
- B. All underground structures whenever or whatever nature encountered, shall be preserved and restored by the CONTRACTOR unless otherwise shown on the Drawings and all Work necessary therefore shall be included in the Work under the Contract.
- C. Whenever, in judgment of the OWNER, such facility need not be removed or

relocated, but may be maintained or protected by normal methods without unduly interfering with the proper execution of the Work, such maintenance or protections shall be performed by the CONTRACTOR. In lieu thereof, the CONTRACTOR may arrange with the utility concerned to maintain or protect its facility and he shall bear all expense in connection therewith.

- D. All damages, cracks, settlements, movements, or service disruptions to underground facilities or surface features created or caused by the construction operations shall be corrected without loss of useful life of the facility by adequate repair and/or replacement at no additional cost to the OWNER.
- E. The CONTRACTOR will not be entitled to extension of time for completion on account of delaying any required movement of utility facilities if he was late in providing the original notification.
- F. The cost of moving, altering, relocating or maintaining public and private utilities shall be included in the Contract sum. The CONTRACTOR shall make all arrangements involving utilities with the respective owner.
- G. No payment will be made where utilities shown in the approximate location have to be removed and replaced or supported within the excavation made for the Work under the Contract.
- H. Whenever pipelines and structures under construction cross existing sewers, utility pipes, or conduit, special precautions shall be taken and protective measures used to avoid damage to the existing facilities. Under no circumstances shall the CONTRACTOR manipulate utility switches, valves, pipes, conduit and the like.
- I. While working near a water main that is considered a hazard, the CONTRACTOR should request the owner to cut off the pressure in such main. Wherever it is possible to do so, the OWNER will cooperate by taking such mains out of service while the construction Work is progressing. Under no circumstances shall the CONTRACTOR operate water main valves.

1.9 FENCING

- A. The CONTRACTOR shall be responsible for securing the materials and equipment.
- B. Temporary fencing (including gates) shall be installed as required to secure the staging/storage areas. All temporary fencing shall be removed upon completion.

PART 2 - PRODUCTS (NOT USED)
PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01540

HEALTH & SAFETY PLAN

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. Prepare and maintain on-site Health and Safety Plan (HASP) for CONTRACTOR's operations at the Work site.
- B. All grading shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926.650 Subpart P), and State and local requirements. Where there is conflict between OSHA and State and local regulations exists, the more stringent requirements shall apply.

1.2 REFERENCES

- A. Michigan Occupational Health and Safety (MIOSHA); Chapter 29, Code of Federal Regulations (CFR).
 - 1. Exposure to gases, vapors, dusts and mists (MIOSHA 6201; 29 CFR 1926.55).
 - 2. Exposure to lead (MIOSHA 325.51991-51992; 29 CFR 1926.62).
 - 3. Exposure to cadmium (MIOSHA 325.51851-51885; 29 CFR 1926.1127).
 - 4. Exposure to inorganic arsenic (29 CFR 1926.1118).
 - 5. Occupational noise exposure (MIOSHA 6260; 29 CFR 1926.52).
 - 6. Protective equipment (MIOSHA 6501; 29 CFR 1926, Subpart E).
 - 7. Excavation (MIOSHA IX, X, XIII; 29 CFR 1926, Subpart P).
- B. Copies of MIOSHA safety standards for general industry and construction can be obtained from the Michigan Department of Labor, Safety Standards Division, in Lansing, Michigan. Copies of MIOSHA health construction standards can be obtained from the Michigan Department of Public Health, Division of Occupational Health Standards, in Lansing. OSHA safety and health standards for the construction industry are obtained from the U.S. Government Printing Office, Washington, D.C.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PREPARATION

- A. The CONTRACTOR shall prepare a site Health and Safety Plan before any mobilization or work can begin. There shall be a copy of the CONTRACTOR's HASP on site at all times.

END OF SECTION

SECTION 01600

DELIVERY, STORAGE AND HANDLING

- PART 1 GENERAL
- 1.1 SCOPE OF WORK
- A. The general requirements for the delivery handling, storage and protection for all items required in the construction of the Work, as specified herein. Specific requirements are specified with the related item.
- 1.2 GENERAL TRANSPORTATION, DELIVERY, STORAGE AND PROTECTION
- A. The CONTRACTOR is required to establish a delivery and removal schedule for major items and notify Engineer and the Golf Course to provide coordination of park/golf course facility use.
- B. Transport and handle items in accordance with manufacturer's instructions.
- B. Schedule delivery to reduce long term on-site storage prior to installation. Under no circumstances shall equipment be delivered to the site more than one week prior to installation without written authorization from the ENGINEER.
- C. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- D. Deliver products to the site in manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storing, unpacking, protecting and installing.
- E. All items delivered to the site shall be unloaded and placed in a manner which will not hamper the CONTRACTOR's normal construction operation or those of subcontractors and other contractors **and will not interfere with the flow of necessary traffic.**
- F. Provide necessary equipment and personnel to unload all items delivered to the site.
- G. Promptly inspect shipment to assure that products comply with requirements, quantities are correct and items are undamaged. For items furnished by others (i.e. OWNER or other contractors), perform inspection in the presence of the ENGINEER. Notify ENGINEER immediately both verbally and in writing, of any problems.
- H. Store and protect products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Storage instructions shall be studied by the CONTRACTOR and reviewed by the ENGINEER. Instructions shall be carefully followed and a written record kept by the CONTRACTOR. Arrange storage to permit access for inspection.
- I. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- 1.3 DELIVERY, STORAGE, AND HANDLING OF PLANT, SEED, OR ECOLOGY MATERIALS
- A. Pack, handle, and transport plant stock in a manner approved for that species and size.

Take precautions that are customary in good trade practice and as recommended by the supplier(s) to ensure proper transport and arrival of plant stock.

- B. Store wet packaged seed in a cool location as recommended by the supplier. Do not store seed longer than 3 days. Do not allow seed to freeze.
- C. Adhere to all planting dates specified within the contract documents.
- D. Deliver and store seed mixtures in original sealed containers. Store seeds in weatherproof and rodent-proof enclosures. Remove seed from site when it becomes wet, moldy, or otherwise damaged.
- E. Label seed containers with the following minimum information:
 - 1. Name and address of supplier.
 - 2. Name of seed mix.
 - 3. Net weight.
 - 4. Date of production and/or shipment.
- F. All live stakes shall be kept in a shaded area of the site to prevent drying of materials. Live stakes shall be kept at temperatures as recommended by the nursery to maintain viability of materials.
- G. All woody plant materials shall be stored in a protected area on site away from storage of other construction materials that may damage plants. All plants shall be mulched/heelled in until such time when plants can be installed. Under no circumstances shall woody plants be allowed to be stored on-site for more than 48 hours prior to planting without prior authorization. All plants shall be sufficiently watered to maintain health and vigor.
- H. The Engineer shall reserve the right to refuse any plant material that is unacceptable upon delivery to site.
- I. The following conditions shall render Plant Stock Unacceptable:
 - 1. Plant stock that has been in storage for an excessive period of time.
 - 2. Plant stock that has been in storage at an excessively high or low temperature.
 - 3. Plant stock displaying mold, decay, or physical damage.
 - 4. Plant stock stored in a manner not suitable for the material.
 - 5. Seeds in damaged packaging are not acceptable.
 - 6. Plant stock that is not correct genus, species, and cultivar as identified on the plant list will not be accepted without prior written approval from Engineer.

PART 2 - PRODUCTS (NOT USED)
PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Closeout procedures.
 - 2. Final cleaning.
 - 3. Project as-built documents.
 - 4. Spare parts and maintenance materials.

1.2 AS-BUILT DOCUMENTS

- A. Maintain on site, one set of the following documents; actual revisions to the Work shall be recorded in these documents:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
- B. Store As-Built Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and Modifications.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Spot elevations of all wetland shelves, locations of each habitat structure, and limits of fish habitat improvements.
 - 2. Details not on original Contract Drawings.
- F. Submit documents with Application for Final Payment.
- G. **FINAL CLEAN AS-BUILT DRAWINGS ARE REQUIRED SHOWING ALL INFORMATION. THIS INFORMATION SHOULD INCLUDE BUT NOT BE LIMITED TO: GRADES/ELEVATIONS; LOCATIONS OF STRUCTURES, UTILITIES AND OTHER PHYSICAL ITEMS; CROSS SECTIONS; INVERTS AND ALL OTHER PERTINENT INFORMATION. THE AS-BUILTS SHOULD BE IN ELECTRONIC AND HARD COPY FORM, BACKED UP WITH FIELD RED LINED SET – 4 sets hard copy. AS-BUILTS NEED TO BE CERTIFIED BY REGISTERED PROFESSIONAL ENGINEER. THE CONTRACTOR WILL BE PROVIDED WITH THE ELECTRONIC VERSION OF THE CONSTRUCTION PLANS AT THE BEGINNING OF THE PROJECT TO WORKFROM.**

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, work has

been inspected and that work is complete in accordance with Contract Documents and ready for inspection.

- B. Provide submittals that are required by governing or other authorities.
- C. Submit Application for Final Payment identifying total adjusted Contract Price, previous payments and sum remaining due.

1.4 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 - 1. Remove labels that are not permanent labels.
 - 2. Clean the site, including areas to be landscaped, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

1.5 CLOSEOUT SUBMITTALS

- A. Evidence of Compliance with Requirements of Governing Authorities:
- B. Project Record As-Built Documents**
- C. Operation and Maintenance Data: (if required)
- D. Warranties and Bonds
- E. Spare Parts and Maintenance Materials
- F. Evidence of Payment and Release of Liens
- G. Consent of Surety to Final Payment.
- H. Certificates of Insurance for Products and Completed Operations

1.6 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Submit final statement reflecting adjustments to Contract Sum indicating:
 - 1. Original Contract Sum.
 - 2. Previous Change Orders.
 - 3. Changes under allowances.
 - 4. Changes under unit prices.
 - 5. Deductions for uncorrected work.
 - 6. Penalties and bonuses.
 - 7. Deductions for liquidated damages.
 - 8. Deduction for re-inspection fees.
 - 9. Other adjustments to Contract Sum.
 - 10. Total Contract Sum as adjusted.
 - 11. Previous payments.
 - 12. Sum remaining due.
- B. Owner's Representative will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Orders.

1.7 APPLICATION FOR FINAL PAYMENT

Submit application for final payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DIVISION 2 – SITE WORK

SECTION 02060

DEMOLITION

- PART 1 GENERAL
- 1.1 SECTION INCLUDES
- A. Demolition of designated topsoil removal, tree removal, path removal, sign removal and removal of materials from site and disposal as required.
- 1.2 RELATED WORK
- A. Section 01040, Coordination.
 - B. Section 01200, Project Meetings.
 - C. Section 01300, Submittals.
 - D. Section 01500, Construction Facilities and Temporary Controls.
 - E. Section 01700, Contract Closeout.
 - F. Section 02220, Soil Erosion Control
 - G. Section 01025, Measurement and Payment
- 1.3 SUBMITTALS
- A. Demolition Plan. CONTRACTOR shall submit a detailed demolition plan explaining his methodology for accomplishing the work.
- 1.4 PROJECT RECORD DOCUMENT
- A. Submit under provisions of Contract Closeout.
 - B. Accurately record actual locations of capped utilities, subsurface obstruction.
- 1.5 REGULATORY REQUIREMENTS
- A. Conform to applicable regulations for demolition, safety of adjacent structures, dust control, runoff control and disposal.
 - B. Obtain required permits from authorities.
 - C. Notify affected utility companies before starting work and comply with their requirements.
 - D. Do not close or obstruct roadways, sidewalks, and hydrants without permits.
 - E. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
- 1.6 SCHEDULING

- A. Schedule all demolition work to precede new construction.

PART 2 EXECUTION

2.1 PREPARATION

- A. Protect existing landscaping materials and structures which are not to be demolished.
- B. Prevent movement or settlement of adjacent structures. Provide bracing and shoring as required.
- C. Mark location of utilities.

2.2 DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent structures and occupancies.
- B. Cease operation immediately if adjacent structures appear to be in danger. Notify Engineer. Do not resume operations until directed.
- C. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.
- D. Sprinkle work with water to minimize dust. Provide hoses and water connections for this purpose.

2.3 DEMOLITION

- A. Disconnect or remove, cap and identify designated utilities within demolition areas.
- B. Remove items completely as indicated on plans.
- C. Backfill areas excavated caused as a result of demolition, if required by Engineer.
- D. Rough grade and compact areas affected by demolition to maintain site grades and contours.
- E. Remove demolished materials from site and legally dispose of.
- F. Do not burn or bury materials on site.

G. Leave site in clean condition.

END OF SECTION

SECTION 02100
SITE PREPARATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolition
 - 2. Clearing and grubbing
 - 3. Protection and salvaging of existing elements to remain
 - 4. Trash and debris removal
 - 5. Topsoil stripping
 - 6. Soil erosion control

- B. Related Sections:
 - 1. Section 01025, Measurement and Payment
 - 2. Section 01040, Coordination
 - 3. Section 01200, Project Meetings
 - 4. Section 01300, Submittals
 - 5. Section 01500, Construction Facilities and Temporary Controls
 - 6. Section 01700, Contract Closeout
 - 7. Section 02060, Demolition
 - 8. Section 02220, Soil Erosion Control
 - 9. Section 02300, Earthwork

1.2 JOB CONDITIONS

- A. General: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks and occupied facilities.

- B. Safety: Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.

- C. Repairs: Promptly repair damages caused to adjacent facilities by demolition operations.

- D. Services Interruptions: Do not interrupt existing utilities serving occupied facilities, except when authorized by Owner. Provide temporary services, acceptable to Owner, during interruptions to existing facilities.

- E. Reused Materials: Carefully remove, store, and protect for reuse designated materials and equipment.

1.3 DEFINITIONS

- A. Acceptance: Wherever the terms “acceptance” or “accepted” are used herein, they mean acceptance of the Engineer in writing.

PART 2 PRODUCTS

2.1 SAFETY FENCE

- A. Fabric: ALPI Safety Fence, 4 foot height, by American Tenax Products or approved substitute.
- B. Posts: Heavy duty “T” posts, 6 foot long.
- C. Supplier: Construction Supply, Highland, Michigan; (313) 887-6767

2.2 SILT FENCE

- A. Material: Beltech 751, pre-fabricated silt fence or approved substitute.
- B. Supplier: ADS, Owosso, Michigan; (800) 237-7659

2.3 CATCH BASIN INSERTS

- A. Material: Silt Sack or approved substitute
- B. Supplier: Price and Company, Wyoming, Michigan; (800) 248-8230

2.4 PERMEABLE FILTER MATERIAL

- A. Quality: Crushed washed rock
- B. Size: 3” dia.

PART 3 EXECUTION

3.1 DEMOLITION

- A. General:
 - 1. Unless otherwise noted, demolition shall include the removal of items which would interfere with or be incongruous to construction of the project and as specified in the Contract Documents.
 - 2. Use water sprinkling, temporary dust proof enclosures and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
 - 3. Do not use water when it may create hazardous or objectionable conditions.
 - 4. Remove concrete footings from all items to be salvaged.
- B. Verification of Conditions:

1. In company with the Owner and Engineer, visit the site and verify the extent and location of selective demolition required.
2. Carefully identify limits of selective demolition.
3. Mark interface surfaces as required to enable workmen also to identify items to be removed and items to be left in place intact.

C. Utilities:

1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.

D. Conditions to Remain:

1. Protect from damage all adjoining property and adjacent areas not scheduled for construction.
2. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to the start of work.

3.2 CLEARING AND GRUBBING

A. Removal:

1. Contractor shall remove trees and plant materials that conflict with new construction, as indicated in the drawings.
2. Trees to be removed will be marked by the Contractors for approval by the Owner and the Engineer prior to removal.
3. Use only hand methods for grubbing inside the drip line of trees indicated to be left standing.
4. Removal of trees, shrubs, and other plant material shall include branches, trunks, stumps, and root systems to 24" below new grade. Within areas scheduled for walks, parking lots, structures or other improvements affected by settlement, woody material shall be completely removed.

B. Backfilling:

1. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.
2. Place fill material in horizontal layers not exceeding 6" loose depth, and thoroughly compact to a density equal to adjacent original ground.
3. In areas to receive further excavation or earthwork, see Section 02200, Earthwork.

C. Disposal: All woody material shall be disposed of off-site.

3.3 PROTECTION

A. Tree Protection:

1. Existing trees, shrubs, and plant material to remain shall be protected as detailed on the plans. Installation of tree protection shall not damage bark or root structure of tree.
2. Do not use trees which are to remain for any purpose such as crane stays, guy anchors, etc.
3. Storage of materials, parking vehicles or stockpiling inside the drip line of trees to remain shall not be permitted.

4. Damage to any trees shall be repaired by qualified nurserymen or replaced with approved equal materials.
5. THE CONTRACTOR SHALL BE HELD LIABLE FOR THE DESTRUCTION OF EXISTING TREES SCHEDULED TO REMAIN. SAID EXISTING TREES SIX INCH (6") DBH OR SMALLER SHALL BE REPLACED WITH NURSERY GROWN BALLED AND BURLAPPED STOCK OF THE SAME SIZE AND SPECIES. SHOULD DESTRUCTION OCCUR WITH TREES LARGER THAN SIX INCH (6") DBH OCCUR, THE CONTACTOR SHALL REIMBURSE THE OWNER THE AMOUNT STIPULATED IN THE LATEST EDITION OF THE MICHIGAN SHADE TREE EVALUATION CHART PUBLISHED JOINTLY BY THE MICHIGAN FORESTRY AND PARK DEPARTMENT FOR THE PARTICULAR SPECIES INVOLVED. THE PERCENTAGE OF FULL VALUE FOR THE TREE BASED ON ITS CONDITION AND LOCATION SHALL BE DETERMINED BY THE OWNER OF THE ENGINEER.
6. Owner shall be justly compensated for any damage to existing trees, whether repairable or not, at the rate of \$50.00 per inch of cross-section diameter 12" above grade (ex: 10" dia x \$50=\$500).
7. Don't mess with the trees!! You bump into a tree, you pay for it.

B. Utilities:

1. Existing utilities to remain shall be protected and maintained to prevent leakage, sedimentation settlement, or other damage.
2. Damage to any utility shall be restored to former condition and as required by the utility company or municipal or state government department affected.

3.4 REMOVAL OF DEBRIS

- A. General: Rubbish or debris shall be removed from the site daily and legally disposed. No large quantities will be allowed to accumulate.
- B. Burning: No burning or rubbish or debris will be permitted.
- C. Salvaged Items: Stockpile all salvaged items for pick-up by Owner.

3.5 ADJUSTMENT OF EXISTING UTILITIES

- A. General: All manholes, valve boxes, gate valves, etc., (if any) shall be adjusted to conform to the shape and grade of finished grade. This adjustment shall be in accordance with the regulating agency of the utility involved.

3.6 STRIPPING TOPSOIL

- A. Topsoil:
 1. Strip topsoil under sidewalks, paving, or any area to receive change in grade, to underlying subsoil in a manner to prevent intermingling with underlying subsoil.
 2. Remove heavy growths of grass from areas before stripping.
 3. Where trees are indicated to be left standing, stop topsoil stripping at drip line of tree.
 4. Stockpile topsoil for re-use after rough grading operations.

5. Topsoil shall remain the property to the Owner and shall not be removed from the site.

B. Boulders: Boulders (if encountered) shall be stockpiled as directed by Owner.

3.7 SOIL EROSION AND SEDIMENTATION CONTROL

A. General Requirements:

1. Public Act 346, the Soil Erosion and Sedimentation Control Act of 1972, must be followed. Should the local regulatory agency determine that the construction operations is in violation of the Soil Erosion Act, the Contractor shall take immediate action to remedy the situation.
2. Responsibility to render the site erosion free rests with the Contractor. Approval by the Owner of any method to accomplish this does not relieve the Contractor of full responsibility.
3. Delays due to shut down from non-compliance with the Soil Erosion Act are the responsibility and at the expense of the Contractor.

B. Operations:

1. Prior to construction, silt fence shall be installed as indicated on the plans.
2. Operations shall be conducted in such a manner as to reduce and contain erosion. The amount of time land is exposed to the elements by grading operations shall be the minimum.
3. Temporary sediment traps, diversion ditches, etc., shall be constructed at locations indicated on plan in a timely fashion so as to minimize sedimentation of water courses.

2.8 INSPECTION AND TESTING

A. Notification: Notify Engineer upon completion of site preparation to enable inspection by the Testing Agency (if deemed necessary).

END OF SECTION

SECTION 02207

AGGREGATE MATERIALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aggregate Materials for path
- B. Aggregate materials for stormwater pipe and manhole installation.
- C. Aggregate materials for basins
- D. Aggregate materials for aprons.

1.02 RELATED WORK

- A. Section 01025, Measurement and Payment
- B. Section 01040, Coordination
- C. Section 01200, Project Meetings
- D. Section 01300, Submittals
- E. Section 01400, Quality Control
- F. Section 01500, Construction Facilities and Temporary Controls
- G. Section 01700, Contract Closeout
- H. Section 02220, Soil Erosion Control
- I. Section 02300, Earthwork
- J. Section 02630, Site Drainage

1.03 REFERENCES

- A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
- C. ASTM D2487 - Classification of Soils for Engineering Purposes.
- D. Michigan Department of Transportation (MDOT) 2003 Standard Specifications for Construction plus updates.

1.04 SUBMITTALS FOR REVIEW

- A. Submittals: Procedures for placing aggregates.

- B. Samples: Submit 50 lb sample of each aggregate type to testing laboratory.

1.05 SUBMITTALS FOR INFORMATION

- A. Materials Source: Submit name of imported materials suppliers and most recent test results from supplier.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with the Michigan Department of Environmental Quality permit.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

- A. All aggregates for porous pavers shall be crushed angular stone and free of fines and shall conform to the following:
 - a. Backfill material for storm sewer: Class II granular material per City of Ann Arbor standards
 - b. Aggregate for path – crushed limestone fines
 - c. Field stone slabs – 6"-12" thick, 2'- 4' x 2'- 4' slabs
- B. Subgrades shall be free of organic clay soils and/or peat mulch or soils with high organic content.

2.02 SOURCE QUALITY CONTROL

- A. Section 01400, Quality Control.
- B. If tests indicate materials do not meet specified requirements, change material or material source and retest
- C. Provide materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 STOCKPILING

- A. Stockpile materials on site at locations designated on the plans or by Owner.
- B. Do not stock pile in areas where aggregates can be washed into storm drains.

3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition.

END OF SECTION

SECTION 02216

TOPSOIL AND TOPSOIL PLACEMENT

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Ripping of Subgrade
 - 2. Treatment of Topsoil to Remove Deleterious Materials
 - 3. Placement of Topsoil
 - 4. Blading of Topsoil Smooth After Placement
- B. Related Sections:
 - 1. Section 02200 Earthwork

1.2 REFERENCES

- A. ASTM - American Society for Testing Materials:
 - 1. Test method for Laboratory Compaction Characteristics of Soil Using Modified Effort, ASTM D 1557-91.

1.3 DEFINITIONS

- A. Soil Subgrade: The soil surface on which topsoil is placed.
- B. Finished Grades: The final grade elevations indicated on the Grading Drawings.
- C. Aesthetic Acceptance of Grades: Acceptance by the Landscape Architect in writing of the Aesthetic Correctness of the contours as observed without a survey instrument. Aesthetic Acceptance does not address whether an area drains properly, whether the areas are at the correct elevation, or whether it has been compacted properly.
- D. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of Landscape Architect in writing.

1.4 SUBMITTALS

- A. Soil Test Report: Submit 3 copies of soil analysis data of all imported topsoil showing the following data:
 - 1. Chemical Properties:
 - a. Half Saturation Percentage
 - b. PPM dry soil of: NO₃-N, NH₄-N, PO₄-P, K, Ca, Mg
 - c. pH
 - d. Sodium Absorption Ratio
 - e. Salinity Boron

- f. Saturation Extract Values of: E_{Ce}, Ca-Me/1, Mg-Me/1, Na-Me/1, K-Me/1, B-PPM
- g. Cation exchange capacity (CEC).
- 2. Physical Properties:
 - a. USDA sieve method classification
 - b. USDA hydrometer classification
 - c. Organic content

1.5 SITE CONDITIONS

- A. Environmental Requirements:
 - 1. Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily.
 - 2. Do not work soil when muddy or frozen.

1.6 WARRANTY

- A. Warrant that topsoil layer shall be free of settlement below the finish grades for a period of one year from date of Final Acceptance.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil:
 - 1. Quality: Fertile, friable, well drained, of uniform quality, free of herbicide contamination and other substances toxic to plant growth, stones over one inch diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials.
 - 2. Nematodes: Parasitic nematode population shall not be more than 200 per 50 cubic centimeters of soil.
 - 3. Source: Imported from accepted source.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Subgrade: Verify that subgrade has been graded to correct elevations.
- B. Verification of Conditions: Examine site and verify that conditions are suitable to receive work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.

- C. Unsuitable conditions: Before proceeding with work, notify Owner and Landscape Architect in writing of all unsuitable conditions and conflicts.

3.2 PREPARATION

- A. Ripping Subgrade:
 - 1. Timing: Prior to placing topsoil, rip all areas to receive topsoil on the same day topsoil is placed.
 - 2. Direction at Slopes of 5:1 or More: Rip soil parallel with slope contours in one direction.
 - 3. Direction at Areas of Less Than 5:1 Slopes: Rip areas in two directions 90 degrees to each other.
 - 4. Depth at Slopes of 5:1 or More: Rip to a depth of 6 inches unless indicated otherwise.
 - 5. Depth at Areas of Less Than 5:1 Slopes: Rip to a depth of 12 inches unless indicated otherwise.
 - 6. Tine Spacing: Space ripping machine tines at 18 inches on center.
- B. Clearing Subgrade: Clear subgrade of all stones larger than 2 inches, sticks, and other extraneous materials prior to placement of topsoil.
- C. Cleaning Topsoil: Remove stones larger than one inch, sub-soil refuse, tree and shrub roots, clods, sticks and other deleterious materials from topsoil prior to spreading.

3.3 PLACEMENT OF TOPSOIL

- A. Location: Place topsoil at locations shown on the Drawings.
- B. Depth:
 - 1. Place topsoil to the depths shown on the Drawings.
 - 2. Make allowances for settlement, addition of soil amendment, and fine grading.

3.4 TOLERANCES

- A. Finish Grades:
 - 1. Grade all planting areas and lawns to within 0.10 foot of grades indicated on the Grading Plans, except bring grades along paving, curbs and other structures to within 0.02 foot of grades shown on the Grading Plans.
 - 2. Transition grades along paving, curbs and other structures to areas of less strict tolerance over 6 feet distance.

3.5 SPILLAGE, DUST AND EROSION CONTROL

- A. Spillage:
 - 1. Take precautions to prevent spillage when hauling on or adjacent to any public street or highway.

2. In the event that spillage occurs, remove all spillage and sweep, wash, or otherwise clean such streets or highways as required by local City, County or State authorities.
- B. Dust Control: Use water trucks or temporary irrigation and take all precautions needed to prevent a dust nuisance to adjacent public or private properties.
 - C. Erosion Control:
 1. Comply with the Soil Erosion and Sedimentation Control requirements listed under Section 02100.

3.6 FIELD QUALITY CONTROL

- A. Field Observation Reviews by Landscape Architect: Coordinate and schedule with Landscape Architect.

3.7 PROTECTION OF TOPSOIL

- A. Drainage: Keep surface of the topsoil in such condition that it will drain readily and effectively.
- B. Compaction and Contamination: In handling materials and operating tools and equipment, protect the topsoil from damage by laying down planks, plywood, or other accepted protective devices where required and take other precautions as needed to protect topsoil from compaction and contamination.
- C. Vehicular Traffic:
 1. Do not allow vehicles to travel in a single track.
 2. If ruts are formed, blade rutted topsoil smooth.
- D. Storage of Materials: Do not store or stockpile materials on the topsoil.
- E. Excessive Compaction:
 1. Avoid excessive compaction of planting areas.
 2. Rip to 12-inch depth, rototil, and blade smooth areas which become compacted more than 85 percent as determined by ASTM D 1557-91.

END OF SECTION

SECTION 02220

SOIL EROSION CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This specification section provides certain requirements, techniques, and measures to minimize erosion and sedimentation damage to the construction site.

1.2 GENERAL

- A. In general, the Contractor shall conduct his operations in such a manner as to limit any exposed area of any disturbed land for the shortest practicable period of time and any sediment caused by soil erosion due to his operations shall be restricted to a non-polluting minimum before it leaves the site.
- B. The Contractor shall comply with all requirements under the *Public Act 346, The SESC Act of 1972* and any local SESC laws or rules. Where these Specifications are more stringent, then these Specifications shall govern.

1.03 RELATED WORK

- A. Section 01025, Measurement and Payment
- B. Section 01040, Coordination
- C. Section 01200, Project Meetings
- D. Section 01300, Submittals
- E. Section 01500, Construction Facilities and Temporary Controls
- F. Section 01700, Contract Closeout
- G. Section 02060, Demolition
- H. Section 02220, Soil Erosion Control
- I. Section 02300, Earthwork
- J. Section 02630, Site Drainage
- K. Section 02930, Landscaping

PART 2 PRODUCTS

2.1 MATERIALS

- A. Silt Fence – Silt fence shall be standard geotextile product with a minimum flow rate of 10 gal/min with integral 1.25" x 1.25" wood posts. Fabric height shall be 36" (6 inch buried, 30" above ground when properly installed) and post spacing at 6.5 feet.
- B. Erosion Control Blanket – For all slopes greater than 4 horizontal to 1 foot vertical, use Woven blanket with jute string and 70% straw / 30% coir fill.

Acceptable material: North American Green C125BN or approved equivalent. Wood staples shall be used for staking blanket to finish grade.

- C Catch Basin Inserts – For all existing catch basins within property boundary and any other catch basins that may be affected and those as shown on the Drawings. Use Silt Sack by ACF Environmental/Price and Company.

PART 3 EXECUTION

3.1 EROSION PROTECTION

- A. In order to limit the length of time that the exposed area is subject to the elements and the subsequent conditions causing erosion, the contractor shall take steps to minimize and keep within the bounds of permits.
- B. Any unforeseen situations that may be encountered during the course of construction, that may cause accelerated erosion and deposition of sediment into waterways and/or lakes is not allowed to happen, will be controlled by upland methods that may include sediment traps, sediment basins, or holding ponds. Any slope failures or development of gullies after construction has been completed will be corrected immediately.

3.2 SILT FENCE

- A. Silt fence shall be installed at locations as identified in the plans prior to any movement of soil.
- B. Silt fence shall be installed per manufacturer's recommendations. Silt fence should have the bottom of the geotextile be trenched into the grade a minimum of six inches and backfilled appropriately to ensure flow stabilization of surface drainage. Both ends of silt fence shall wrap up-slope slightly to hold flow of water in drainage feature.
- C. Silt fence shall be maintained by specifications for the duration of the project. Silt fence shall not be removed until the end of the warranty period and the SESC Agency agrees with removal.

3.3 EROSION CONTROL BLANKET

- A. Erosion control blankets shall be used to stabilize all seeded slopes greater than 4:1 (horizontal:vertical), as shown on Plans.
- B. Blanket shall be installed on top of permanent seed installation, as specified in Section 02930 Landscaping.

3.4 CATCH BASIN INSERTS

- A. Catch Basin Inserts shall be installed at all existing catch basins within property boundary and any other catch basins which may be affected.
- B. Catch Basin Inserts shall be installed per manufacturer's recommendations.
- C. Catch Basin Inserts shall be maintained by Phase 1 contractor per manufacturer's recommendations throughout the duration of Phase 1 construction.

3.04 APPLICATION OF PERMANENT STABILIZATION

- A. Permanent stabilization shall be applied to all areas disturbed by the Contractor during completion of the work required by the Contract.
- B. The stabilization shall be accomplished within five days of completion of final grading, provided that change is made within the stated season for such stabilization.
- C. If the final earth change is accomplished at a time outside of the stated seeding season, temporary stabilization shall be applied upon completion of the final earth change and shall be replaced with permanent stabilization as soon after the following April 20 as the ground is workable.

3.05 APPLICATION OF TEMPORARY STABILIZATION

- A. Temporary stabilization shall be applied to areas where initial work has caused disturbance and the final change will not be completed immediately and to areas where the final earth change is completed between October 1 and April 20.
- B. Temporary stabilization shall be applied to areas where the final earth change has been completed, including final grading and top soil placement, between the dates of October 1 and April 20. The disturbed areas shall have mulch placed and anchored as described in the following paragraphs. After April 20, areas to be seeded shall be seeded through the mulch. Mulch shall be added and anchored as necessary to replace that lost prior to April 20. Temporary cover seeding shall be utilized, such as annual rye.
- C. Areas disturbed by construction activities but on which the final earth change has not been made shall be graded to provide positive drainage and shall be stabilized to prevent erosion.
- D. Areas which receive an initial change and on which further work is to be done within three months shall be graded to provide positive drainage and shall have mulch place and anchored.

3.06 SEEDING FOR TEMPORARY AND PERMANENT STABILIZATION

- A. Site Preparation – The seedbed immediately before seeding shall be firm but not so compact as to prohibit the seed from securing adequate

germination or root penetration. Topsoil shall be replaced after grading operations for permanent stabilization. No topsoil is required for temporary stabilization. Tillage implements shall be used as necessary to provide at least a 3-inch depth of firm but friable soil, free of large clods and stones and other debris. All seeding shall be protected by mulching. See Section 02930 of these specifications for details of permanent stabilization which include spreading topsoil, seeding, mulching, establishment and guarantee. Mulching work shall also be included in temporary stabilization.

- B. Seeding Dates – Seed shall be applied from April 20 to October 1 for permanent stabilization and from April 20 to October 15 for temporary stabilization and the seeded areas shall be kept moist for fourteen (14) days to insure growth. If the site is readied for seeding and during non-seeding months, it shall be protected by mulching. The site can be seeded later through the mulch. Seeding shall not be done on frozen soil or if the soil is snow covered, or when environmental conditions prohibit germination, as per Section 02930.
- C. Seeding – see Section 02930, Landscaping.
- D. Irrigation – The Contractor shall apply water to the new seedings daily in order to insure that the seed bed is moist enough to allow germination and growth of the seeds.

END OF SECTION

SECTION 02260

FINISH GRADING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Finish grading

1.2 REFERENCES

- A. ASTM - American Society for Testing Materials:
 - 1. Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort - D 1557-91.

1.3 DEFINITIONS

- A. Percent Compaction: The required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by ASTM D 1557 - 91 test procedure.
- B. Soil Subgrade: The soil surface on which topsoil is placed.
- C. Finished Grades: The required final grade elevations indicated on the Grading Drawings.
- D. Aesthetic Acceptance of Grades: Acceptance by the Landscape Architect in writing of the Aesthetic Correctness of the contours. Aesthetic Acceptance does not address whether an area drains properly, whether the areas are at the correct elevation, or whether it has been compacted properly.
- E. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of Landscape Architect in writing.

1.4 QUALITY ASSURANCE

- A. Soil Surface Smoothness Mockup:
 - 1. Prepare a 20 feet by 20 feet area of soil on site for acceptance by the Landscape Architect as a standard by which finish grading will be judged.
 - 2. Locate mockup on site in a proposed planting area easily referenced by workmen performing finish grading operations.
 - 3. Protect accepted mockup from physical damage and erosion with fencing, canopies, sandbags or other accepted means until substantial completion.

1.5 SITE CONDITIONS

- A. Environmental Requirements:

1. Working Soil: Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling. Do not work soil when muddy or frozen.
- B. Existing Conditions:
1. Irrigation System: Review irrigation record documents for locations of heads, valve boxes and other underground equipment and materials, which could be damaged by finish grading work.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Soil Preparation: Examine site and verify that all soil preparation and topsoil placement work is complete.
- B. Verification of Conditions: Examine site and verify that conditions are suitable to receive work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- C. Unsuitable conditions: Before proceeding with work, notify Owner and Landscape Architect in writing of all unsuitable conditions and conflicts.

3.2 PREPARATION

- A. Protection of Existing Conditions:
 1. General: Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, irrigation systems, plant materials and paving on or adjacent to the site of the work.
 2. Barriers: Provide barricades, fences or other barriers as necessary to protect existing conditions to remain from damage during construction.
 3. Operations: Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
 4. Notification of Damages: Submit written notification of all conditions damaged during construction to the Owner and Landscape Architect immediately.
 5. Determination of Damage of Plant Material: Landscape Architect will determine the extent of damage and value of damaged plant material.
 6. Replacement of Existing Plant Material: Replace existing plants to remain which are damaged during construction with plants of the same species and size as those damaged at no cost to the Owner.

7. Replacement of Existing Irrigation System: Immediately repair damage to existing systems. After making repairs remove all heads in repaired circuit(s) and flush lines clear of all dirt and foreign matter. After cleaning lines replace heads and return system to operating status.

B. Survey Requirements:

1. Lines and Levels: Establish lines and levels, locate and lay out by instrumentation and similar appropriate means for all planting area finish grades.
2. Additional Staking: Provide grade stakes and string lines as required to achieve smooth finish grades with positive surface drainage.

3.3 FINISH GRADING OPERATIONS

A. General: Generally, grade with uniform slope between points where elevations are given or between such points and existing grades.

1. Soil Inspection for Deleterious Materials: Inspect soil for sticks, oils, chemicals, plaster, concrete, and other deleterious materials.
2. Removal of Deleterious Materials: Do work necessary to remove the deleterious materials.

B. Surface Drainage:

1. Slope finish grades to drain surface water away from buildings, walks, paving, and other structures unless otherwise noted.
2. Slope finish grades to drain surface water to catch basins, area drains or trench drains as shown on the Drawings.

C. Inducing Settlement and Melting Clods:

1. Apply water as required to induce settlement and melt remaining clods.
2. When adequately dry, regrade or rescreed smooth, adding additional amended soil as required.

D. Equipment: Use equipment of appropriate size and type to achieve the sculptural forms, profiles and smooth soil surface free of high areas, depressions and tracks.

E. Depressions and Loose Material: Fill and compact any depressions, and remove all loose material to finish surface true to line and grade, presenting a smooth, compacted, and unyielding surface.

F. Excessive Compaction: Except within existing tree drip lines, rip areas which become compacted more than 75 percent, as determined by ASTM D 1557-91, to a 12-inch depth, rototill and blade smooth.

3.4 TOLERANCES

A. Finish Grades:

1. Grade all areas to within .10 foot of grades indicated on the Grading Plans, except bring grades along paving, curbs and other structures to within .02 foot of grades shown on the grading plans.

2. Transition grades along paving, curbs and other structures to areas of less strict tolerance over 6 feet distance.

B. Allowances: Make proper allowances for settlement, spoils from plant pits, and addition of soil amendment.

3.5 FIELD QUALITY CONTROL

A. Interim Field Observation Reviews by Landscape Architect: Coordinate and schedule with Landscape Architect.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Incidental Work: Finish grading is incidental to the placement of topsoil mix and the planting of trees and shrubs, and will not be paid on a unit price basis.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavation work
2. Site grading
3. Preparation of subgrade for walks, structures, utilities, lawn and planting areas

B. Related Sections

1. Section 01025, Measurement and Payment
2. Section 01040, Coordination
3. Section 01200, Project Meetings
4. Section 01300, Submittals
5. Section 01500, Construction Facilities and Temporary Controls
6. Section 01700, Contract Closeout
7. Section 02100, Site Preparation
8. Section 02207, Aggregate Materials
9. Section 02220, Soil Erosion Control
10. Section 02630, Site Drainage
11. Section 02930, Landscaping

1.2 REFERENCES

A. MDOT – Michigan Department of Transportation, “Standard Specifications for Construction”, current edition.

B. ASTM – American Society of Testing Materials, latest edition.

1.3 DEFINITIONS

A. Maximum Density: Maximum unit weight per volume for an established material.

B. Optimum Moisture: Percentage of water at maximum density.

C. Borrow: Material required for earthwork construction in excess of the quantity of suitable material available from required excavation grading or cutting. Borrow may be necessary even though not show on the plans.

D. Suitable Excavated Material: Mineral (inorganic) soil free of cinders, refuse, sod, boulders, rocks, pavement, soft or plastic clays, vegetation or other organic material, capable of being compacted as specified. Moisture content has no bearing on the suitability of materials to be used.

E. Granular Material: Course grained materials having no cohesion, which derive their resistance to displacement from internal stability.

- F. Cohesive Material: Fine grained material which produces resistance to displacement by mutual attraction between particles. Clays are cohesive.
- G. Rough Grade: Earth grade before placing structure or landscaping.
- H. Subgrade: Earth grade upon which a pavement structure is to be placed.
- I. Rock Excavation: Boulders or rock weighing 4,000 pounds (approximately one cubic yard) or more and all solid rock, slate, shale sandstone and other hard materials that require continuous use of pneumatic tools, heavy rippers or continuous drilling and blasting for removal. Pavements are not included.
- J. Proof Rolling: Applying test loads over the rough grade or subgrade surface by means of a heavy pneumatic tire roller or other approved means, to locate and permit timely correction of deficiencies likely to adversely affect performance of the pavement structure.
- K. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of Engineer in writing.

1.4 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.5 SITE CONDITIONS

- A. Existing Utilities:
 1. Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
 2. Should uncharted, or incorrectly charted piping or other utilities be encountered during excavation, consult the utility owner immediately for directions.
 3. Cooperate with Owner and utility companies in keeping respective services and facilities in operation.
 4. Repair damaged utilities to satisfaction of utility owner.
- B. Use of Chemicals or Explosives: Not permitted without prior written authorization from the Owner. If herbicides or soil sterilants are specified on the drawings or elsewhere in these specifications, the brand and type shall be approved by the Owner prior to application.
- C. Protection of Persons and Property:
 1. Barricade open excavations occurring as part of this work with barricade construction approved by governing authorities. Operate warning lights as recommended by authorities having jurisdiction.
 2. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
 3. Every effort shall be made to accommodate the public during construction.

- D. Defective Work: If during progress of the work, testing indicates that materials do not meet specified requirements, remove defective work and replace at no cost to the Owner.
- E. Moisture Content:
 - 1. Moisture content has no bearing on the suitability of material to be used, however, some materials may require extensive manipulation to achieve required compaction. It is the contractor's responsibility to determine the economics of using or disposing and replacing such materials.
 - 2. Materials determined by the contractor to be uneconomical for use may be disposed of off-site or on-site areas approved by the Engineer and replaced with other material at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 MATERIALS

- A.
 - a. Backfill material for storm sewer: Class II granular material per City of Ann Arbor standards
 - b. Aggregate for path – crushed limestone fines
 - c. Field stone slabs – 6"-12" thick, 2'- 4' x 2'- 4' slabs
- B. Topsoil: Surface soils containing organic matters and productive of plant life. Refer to Section 02930 (Landscaping).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine site and verify that conditions are suitable to receive work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- B. Unsuitable Conditions: Before proceeding with work, notify Owner and Landscape Architect in writing of all unsuitable conditions and conflicts

3.2 PREPARATION

- A. Protection of Existing Conditions:
 - 1. General: Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, irrigation systems, plant materials and paving on or adjacent to the site of the work.
 - 2. Barriers: Provide barricades, fences or other barriers as necessary to protect existing conditions to remain from damage during construction.
 - 3. Operations: Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
 - 4. Notification of Damages: Submit written notification of all conditions damaged during construction to the Owner and Engineer immediately.

5. Determination of Damage of Plant Material: Engineer will determine the extent of damage and value of damaged plant material. Refer to Section 02100 for evaluation criteria.
6. Replacement of Existing Plant Material: Replace existing plants to remain which are damaged during construction with plants of the same species and size as those damaged at no cost to the Owner. Refer to Section 02100 for conditions that apply to trees that cannot be replaced due to size or location.

B. Survey Requirements:

1. Lines and Levels: Establish lines and levels, locate and lay out by instrumentation and similar appropriate means for all grading.
2. Additional Staking: Provide grade stakes and string lines as required to achieve rough grade with positive surface drainage.

C. Utilities:

1. Before starting excavation establish location and extent of underground utilities occurring in work area.
2. Notify utilities companies to remove and relocate lines which are in conflict with design locations.

3.3 EXCAVATION

A. General:

1. Excavate as required for construction of the work. Utilize or dispose of excavated materials as required.
2. Remove unsuitable material to firm underlying soils beneath footings, pipelines, floor slabs, paved areas and walks. Backfill to required subgrade elevation with suitable compacted fill.
3. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer shall be at the Contractor's expense. Backfill and compact unauthorized excavations of the same classification, unless otherwise directed by Engineer.

B. Stability of Excavations:

1. Slope sides of excavations to comply with local codes and ordinances having jurisdiction.
2. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

C. Shoring and Bracing:

1. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces in good serviceable condition, where excavation side slopes are limited by space or stability of material.
2. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
3. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Extend shoring and bracing as excavation progresses.

D. Dewatering:

1. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

2. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations.
 3. Convey water removed from excavations and rain water to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
- E. Material Storage:
1. Stockpile satisfactory excavated materials within limits of site construction of in staging area, until required for backfill or fill.
 2. Place, grade and shape stockpiles for proper drainage.
 3. Locate and retain soil materials away from edge of excavations.
 4. Dispose of excess soil material and waste material as specified in Section 02100.
- F. Excavation for Walks: Cut surface to comply with cross-sections, elevations and grades indicated or required.
- G. Excavation for Seed: Cut to underside of topsoil depth.
- H. Cold Weather Protection: Protect excavation for footings against freezing when atmospheric temperature is less than 35 degrees F.
- I. Utilities:
1. Maintain, reroute or extend as required, existing utility lines to remain which pass through excavation area.
 2. Protect utility services uncovered by excavation.
 3. Cap off, plug or seal, discontinued utility services and remove from site within excavated areas.

3.4 BACKFILL AND FILL

- A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.
1. Under topsoil at grassed area, use ordinary fill material to 4" below finish grade.
 2. Under slabs, walks and pavements: Use ordinary fill material or granular fill material.
- B. Timing: Backfill excavations as promptly as work permits, but not until completion of the following:
1. Acceptance by Engineer of construction below finish grade.
 2. Inspection, testing approval, and recording locations of underground utilities.
 3. Removal of trash and debris.
- C. Ground Surface Preparation:
1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to replacement fills.

2. Plow strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
 3. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
 4. If existing soil cannot be compacted, remove to depth of maximum density or as required by the Engineer, and replace with approved material and compact.
- D. Placement and Compaction:
1. Place backfill and fill materials in layers not more than 9" in loose depth for material compacted by mechanical compaction equipment, and not more than 4" loose depth for material compacted by hand-operated tampers.
 2. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content.
 3. Compact each layers to required percentage of maximum dry density or relative dry density for each area classification.
 4. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

3.5 COMPACTION REQUIREMENTS

- A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification.
- B. Percentage of Maximum Density Requirements: Compact subgrade and each layer of backfill or fill material to not less than the following percentages of maximum density at optimum moisture content in accordance with ASTM D 1557, method D:
1. Lawn or Unpaved Areas: 90% maximum density.
 2. Walks and Pavements: 95% maximum density.
 3. Footings: 95% maximum density.
 4. Pipe or stormwater structure backfill: 95% max. density.
- C. Moisture Control:
1. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material to prevent free water appearing on surface during or subsequent to compaction operations.
 2. Remove and replace at no cost to the Owner, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.
- D. Moisture – Density Relationship:
1. Cohesive (Clays) or Granular (Sands) Soils – ASTM D 1557 (Modified Proctor).
 2. Granular (Sands) Soils – Michigan Cone Test.
- E. Testing: By Engineer or Owner approved independent laboratory.
- F. Access: Provide equipment and personnel for access to test locations when requested by Engineer.

3.6 GRADING

A. General:

1. Uniformly grade area within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
2. Lawn or Unpaved Areas: Finish areas to receive topsoil by cutting or filling to within not more than 0.10" above or below the required subgrade elevation.
3. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.10" above or below the required subgrade elevation (cut to 4" below underside of slab if not otherwise indicated.)
4. Drives: Shape surface of areas under pavement to line, grade and cross-section, with finish grade not more than 0.10" above or below the required subgrade elevation (cut to 8" below underside of pavement if not otherwise indicated.)

B. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.7 PROOFROLL SUBGRADE SURFACE

A. General: Provide two complete passes over area to receive pavement structure.

B. Correction of Deficiencies:

1. Fill depressions with compacted material similar to subgrade soil.
2. Undercut areas not providing satisfactory support for pavement structure.
 - a. Fill with compacted material similar to subgrade soil.
 - b. Place geotextile material when soil below undercut will not satisfactory support construction equipment or when directed by Engineer.

3.8 MAINTENANCE

A. Protection of Graded Areas:

1. Protect newly graded areas from traffic and erosion.
2. Keep free of trash and debris.
3. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed compact areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

3.9 SURPLUS MATERIALS

A. Surplus excavated or unsuitable excavated material becomes the property of the Contractor.

B. Dispose of surplus or unsuitable unexcavated materials off site or on-site in areas designated by Engineer.

END OF SECTION

SECTION 02621

GEOSYNTHETICS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Geotextile for separation to be used:
1. As separation between subsoil and rip rap at apron and outlet.

1.2 RELATED WORK

1. Section 01025, Measurement and Payment
2. Section 01040, Coordination
3. Section 01200, Project Meetings
4. Section 01300, Submittals
5. Section 01500, Construction Facilities and Temporary Controls
6. Section 01600, Delivery, Storage and Handling
7. Section 01700, Contract Closeout
8. Section 02100, Site Preparation
9. Section 02207, Aggregate Materials
10. Section 02220, Soil Erosion Control
11. Section 02300, Earthwork

1.3 REFERENCES

A. AASHTO Standards

1. T88 - Particle Size Analysis of Soils
2. T90 - Determining the Plastic Limit and Plasticity Index of Soils
3. T180 - The Moisture-Density Relations of Soils Using a 10 lb Rammer and a 18 inch Drop.
4. M288-96 - Geotextile Specification for Highway Applications

B. American Society for Testing and Materials (ASTM):

1. D 123 - Standard Terminology Relating to Textiles
2. D 276 - Test Method for Identification of Fibers in Textiles
3. D 3786 - Standard Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics
4. D 4354 - Practice for Sampling of Geosynthetics for Testing
5. D 4355 - Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
6. D 4439 - Terminology for Geotextiles
7. D 4491 - Test Methods for Water Permeability of Geotextiles by Permittivity
8. D 4533 - Test Method for Index Trapezoid Tearing Strength of Geotextiles
9. D 4595 - Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
10. D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles
11. D 4751 - Test Method for Determining Apparent Opening Size of a Geotextile

- 12. D 4759 - Practice for Determining the Specification Conformance of Geosynthetics
 - 13. D 4833 - Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
 - 14. D 4873 - Guide for Identification, Storage, and Handling of Geotextiles
 - 15. D 5141 - Test Method to Determine Filtering Efficiency and Flow Rate for Silt Fence Applications Using Site Specific Soils
- C. Texas Department of Transportation, Manual of Testing Procedures
 - 1. TEX 616-J - Asphalt Retention and Potential Change of Area
 - D. Federal Highway Administration (FHWA) - Geosynthetic Design and Construction Guidelines, Publication No. FHWA HI-95-038, May 1995.
 - E. American Association for Laboratory Accreditation (A2LA)
 - . Geosynthetic Accreditation Institute (GAI) - Laboratory Accreditation Program (LAP).
 - G. National Transportation Product Evaluation Program (NTPEP)
- 1.04 DEFINITIONS
- A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.
- 1.05 SUBMITTALS
- A. Submit the following :
 - 1. Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The Certification shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer.
- 1.6 QUALITY ASSURANCE
- A. Manufacturer Qualifications:
 - 1. Geosynthetic Accreditation Institute (GAI)- Laboratory Accreditation Program (LAP)
 - 2. American Association for Laboratory Accreditation (A2LA)

- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Delivery, storage, and handling for all geosynthetic shall conform to manufacturer's recommendations.
 - B. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.
 - C. Each geosynthetic roll shall be wrapped with a material that will protect the geosynthetic from damage due to shipment, water, sunlight, and contaminants.
 - D. During storage, geosynthetic rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geosynthetic.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Mirafi Construction Products
365 South Holland Drive
Pendergrass, GA, USA 30567
1-888-795-0808
1-706-693-2226
1-706-693-2083, fax
www.mirafi.com

2.2 MATERIALS

- A. Geotextile:
 - 1. Mirafi 140N, or approved equivalent.

2.3 QUALITY CONTROL

- A. Manufacturing Quality Control: Testing shall be performed at a laboratory accredited by GAI-LAP and A2LA for tests required for the geotextile, at frequency meeting or exceeding ASTM D 4354.
- B. Geotextile properties, other than Sewn Seam Strength, Burst Strength, and Ultraviolet Stability shall be tested by NTPEP to verify conformance with this specification.
- C. Sewn Seam Strength shall be verified based on testing of either conformance samples obtained using Procedure A of ASTM D 4354, or based on manufacturer's certifications and testing of quality assurance samples obtained using Procedure B of ASTM D 4354. A lot size for conformance or quality assurance sampling shall be considered to be the shipment quantity of the given product or a truckload of the given product, whichever is smaller.

- D. Ultraviolet Stability shall be verified by an independent laboratory on the geotextile or a geotextile of similar construction and yarn type.

PART 3 EXECUTION

3.1 PREPARATION

- A. The installation site shall be prepared by clearing, grubbing, and excavation or filling the area to the design grade.

3.2 INSTALLATION

- A. The geotextile shall be placed loosely with no wrinkles or folds. Successive sheets of geotextiles shall be overlapped a minimum of 300 mm (12 in), with the upstream sheet overlapping the downstream sheet.
- B. Prior to covering, the geotextile shall be inspected by the Engineer to ensure that the geotextile has not been damaged during installation. Damaged geotextiles, as identified by the Engineer, shall be repaired immediately. Cover the damaged area with a geotextile patch which extends an amount equal to the required overlap beyond the damaged area (12 inches).
- A. Construction vehicles shall not be allowed directly on the geotextile.

END OF SECTION

SECTION 02630

SITE DRAINAGE

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. Section Includes: manhole installation as shown on drawings and specified herein.

1.2 RELATED SECTIONS

1. Section 01025, Measurement and Payment
2. Section 01040, Coordination
3. Section 01200, Project Meetings
4. Section 01300, Submittals
5. Section 01330, Construction Staking
6. Section 01500, Construction Facilities and Temporary Controls
7. Section 01700, Contract Closeout
8. Section 02100, Site Preparation
9. Section 02207, Aggregate Materials
10. Section 02220, Soil Erosion Control
11. Section 02300, Earthwork

1.3 SUBMITTALS

- A. Manufacturer's Data: Submit manufacturers' descriptive literature, detailed specifications, performance data, instructions and recommendations for installation of proposed storm sewer materials.

1.4 DELIVERY, INSPECTION, STORAGE AND PROTECTION

- A. Deliver and store materials in a manner to prevent contamination or segregation. Storage areas will be as designated by the ENGINEER and OWNER. All site material shall be stored in areas that are not prone to flooding.
- B. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and damage to stored materials.
- C. Transport and handle materials in accordance with manufacturer's instructions.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Store and protect materials in accordance with manufacturer's instructions.
- F. Piping, fittings, and drainage structures shall be inspected prior to installation and any defective or damaged product shall be replaced.

- G. Corrugated HDPE Pipe and Fittings.
 - a. Any pipe, fittings or drainage structures with cuts, punctures, or other damage on the interior or exterior shall be rejected and replaced.
 - b. Any pipe, fittings or drainage structures with damaged end or joints, which would prevent proper sealing of the joints, shall be rejected and replaced.

PART 2 PRODUCTS

2.1 CORRUGATED HIGH DENSITY POLYETHYLENE PIPE

- A. Pipe manufactured for this specification shall comply with the requirements for test methods, dimensions, and markings found in AASHTO M294 Type S or ASTM F2306 for 12” – 60” diameters. As further defined and described in AASHTO M252, AASHTO M294 and ASTM F2306, the prescribed sizes of pipe are nominal inside diameters. Pipe diameter tolerance shall be 4.5 percent oversize and 1.5 percent undersize. Pipe lengths shall not be less than 99 percent of the manufactures stated length. Pipe supplied shall be smooth Interior and Annular Exterior Corrugated High Density Polyethylene (HDPE) Pipe meeting the requirements of AASHTO M294, Type S or ASTM F2306.

Twelve through 60-inch pipe shall be watertight. Pipe supplied shall be smooth Interior and Annular Exterior Corrugated High Density Polyethylene pipe (HDPE) meeting the requirements of AASHTO M294, Type S or ASTM F2306. The pipe supplied shall be watertight as defined in the joint performance requirements of this specification.

Virgin material for 12”- 60” Pipe and fitting production shall meet the requirements of AASHTO M294 or ASTM F2306, which is a slow crack resistant material evaluated using the notched constant ligament-stress (NCLS) test according to the procedure described in Section 9.5 of AASHTO M294 or Section 7.8 of ASTM F2306. Average NCLS test specimens must exceed 24 hours with no test results less than 17 hours.

- B. Joint Performance. Watertight joints shall be bell and spigot meeting the watertight requirements of AASHTO M252 for 4-inch through 10-inch and AASHTO M294 or ASTM F2306 for 12-inch through 60-inch. Watertight joints shall meet the ASTM D3212 10.8 psi laboratory test. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.
- C. Fittings. Fittings shall conform to AASHTO M252 for 4-inch through 10-inch and AASHTO M294 or ASTM F2306 for 12-inch through 60-inch.
- D. Installation. Pipe installation shall be in accordance with the product manufacturer’s published installation guides and as specified herein.

2.2 EXISTING CONCRETE MANHOLES AND CATCH BASIN ACCESSORIES

- A. Reinforced concrete grade rings shall be used to adjust to final grade elevation. The inside diameter of the grade rings shall be the same as the inside diameter of the top section.
- B. Pipe connectors shall meet the requirements of ASTM C923/C923M; shall be resilient and shall be sized for each pipe connecting to manhole or catch basin section. Pipe connectors shall be fitted or cast into manhole walls.

PART 3 EXECUTION

3.1 PIPING, FITTING & STRUCTURE INSTALLATION

A. General

1. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm and drainage piping system. Location and arrangement of piping layout take design considerations into account. Install piping system as indicated herein and as directed by the product manufacturer, to extent practical. Where specific installation procedure is not indicated, follow product manufacturer's written instructions.
2. All products shall be inspected for defects and cracks before being lowered into the trench, piece by piece. Any defective, damaged or unsound pipe, fitting or drainage structure or any product that has had its grade disturbed after laying, shall be taken up and replaced. Open ends shall be protected with a pipe plug to prevent earth or other material from entering the pipe during construction. The interior of the pipe shall be free from dirt, excess water and other foreign materials as the pipe laying progresses and left clean at the completion of the installation. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections into trenches.
3. Install piping system beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions. Follow product manufacturer's instructions for the use of lubricants, cements, and other special installation requirements.
4. Pipe shall not be laid in water and shall not be laid when trench conditions or weather are unsuitable for such work.
5. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

6. Trench excavation, bedding, backfill and compaction shall be in accordance with the requirements of Section 02300 and Section 02207.

B. Jointing

1. Joints shall be constructed in accordance with the manufacturer's recommendations.
2. All bell and spigot pipe joints shall be thoroughly cleaned. Joint lubricant, supplied by the manufacturer, shall be liberally applied to the entire interior of the bell and gasket on spigot prior to assembly.

3.2 MANHOLE & CATCH BASIN MODIFICATIONS

A. In addition to the piping, fittings and drainage structure installation specifications, the following should be considered for installation of manholes and catch basins.

1. Tops of frames and covers shall be set flush with finished surface of manholes in paved areas.
2. Excavation, bedding, backfill and compaction shall be in accordance with the requirements of Section 02300.

END OF SECTION

SECTION 02930

LANDSCAPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. All labor, materials, equipment and maintenance necessary to provide finished site revegetation. Work includes planting preparation, topsoil, seeding, planting accessories, and tree, shrub, and herbaceous planting installation.

1.2 RELATED WORK

- A. Section 01025, Measurement and Payment
- B. Section 01040, Coordination
- C. Section 01200, Project Meetings
- D. Section 01300, Submittals
- E. Section 01500, Construction Facilities and Temporary Controls
- F. Section 01700, Contract Closeout
- G. Section 02100, Site Preparation
- H. Section 02207, Aggregate Materials
- I. Section 02216, Topsoil and Topsoil Placement
- J. Section 02220, Soil Erosion Control
- K. Section 02300, Earthwork
- L. Section 02975, Landscape Maintenance Period

1.3 DEFINITIONS

- A. Plant Stock: This includes plant material that is to be introduced to Site regardless of its form or maturity. Plant stock may be referred to as woody, such as trees, shrubs, and some varieties of vines, or herbaceous, such as forbs, grasses, sedges, and some varieties of vines. Immature plant stock may be in form of germinated and ungerminated seeds. Mature herbaceous plant stock is generally in form of potted or containerized whole plants. Mature woody plant stock is generally in form of containerized, balled and burlapped, or bare root trees and shrubs.

1.4 SUBMITTALS

- A. All Submittals shall be made in accordance with specified Submittal Procedures and as described herein.
- B. Plant Stock Suppliers: Submit Plant Stock Certificates from woody and herbaceous plant stock suppliers for inspection by OWNER/ENGINEER a minimum of 1 week prior to time of planting.
 - 1. Plant Stock Certificates from suppliers shall include:
 - a. Botanical name, including cultivar, and common name.

- b. Quantity.
 - c. Size.
 - d. Type (B&B, Container, Bare Root...etc.)
 - e. Origin (Location grown).
 - f. Name, address, and phone number of supplier.
- C. Seeding Plan:** Submit Seed Certificates for inspection by the OWNER/ENGINEER a minimum of 1 month prior to initiation of work.
- 1. Seed Mixture Certificates from seed suppliers shall include:
 - a. Botanical names and common names.
 - b. Net weight.
 - c. Percentage of seeds by weights.
 - d. Purity of seed.
 - e. Germination percentage.
 - f. Amount of undesirable plant seeds present in mixture.
 - g. Date of production.
 - h. Date of packaging.
 - i. Location of packaging.
 - j. Name, address, and phone number of supplier.
- D Mulch:** Submit for approval the name and address of mulch supplier(s) and a small physical sample of the material to be used, minimum 1 month prior to beginning installation. This includes mulch to be used for seeding, and tree, shrub and herbaceous plantings.
- E.** Provide all relevant permits, licenses, and authorizations to OWNER/ENGINEER before initiation of work.
- F.** All substitutions, materials or execution, shall be approved by the OWNER/ENGINEER, in writing, a minimum of 1 month prior to construction. The OWNER/ENGINEER reserves the right to require a sample of substituted material(s) prior to approval for construction.

1.5 QUALIFICATIONS

- A.** Plant Stock Suppliers: Obtain plant stock only from established suppliers capable of providing quantities adequate to complete this project. Suppliers shall be required to provide data requested for required submittals prior to use of stock. Suppliers shall be located in Southeast Michigan, when possible.
- B.** All landscaping work shall be performed by a Landscape Contractor. The CONTRACTOR shall be required to demonstrate experience in planting and establishing the specified plant stock herein. Personnel used to perform installation of plant materials shall have occupational experience in landscape planting projects similar to the scope and size of this project.

1.6 REGULATORY REQUIREMENTS

- A. Anticipate field conditions that may result in erosion, fires, noise, dust, and other potentially problematic situations and take steps necessary to reduce or eliminate these conditions in compliance with relevant ordinances and regulations.
- B. All plant stock, original and replacement, shall comply with state and federal Laws and Regulations with respect to inspection for plant diseases and insect infestations. Quality and size shall conform to the current edition of "Horticultural Standards" for number one grade nursery stock as adopted by the American Association of Nurserymen.
- C. Adhere to all federal, state, and local regulations for all phases of the project regarding erosion and sediment control measures.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and transport plant stock in a manner approved for that species and size by OWNER/ENGINEER. Take precautions that are customary in good trade practice to ensure proper transport and arrival of plant stock.
- B. Store plant stock in a manner to prevent damage or deterioration. Plant stock stored for excessive lengths of time or at a time of year which is not suitable by standard horticultural practice shall not be accepted for planting.
- C. Store plant stock in aboveground locations in non-construction areas approved by OWNER/ENGINEER if not transplanted directly. Keep woody and herbaceous plant stock stored cool and sheltered from drying effects of direct sunlight, unless specifically required by plant stock, and prevailing winds. Place sufficient soil or mulch about roots of plant stock to protect them from desiccation and to provide nourishment during storage. Supply adequate water to maintain plant stock in a healthy and vigorous state suitable for transplanting.
- D. The following conditions shall render Plant Stock Unacceptable:
 - 1. Plant stock that arrives dried out, exposed to excessive heat, wind burn or that has been in storage for extended periods of time.
 - 2. Plants stocks displaying mold, decay, or physical damage.
 - 3. Seeds in damaged packaging are not acceptable.
- E. Deliver and store seed mixtures in original sealed containers. Store seeds in weatherproof and rodent-proof enclosures. Remove seed from site when it becomes wet, moldy, or otherwise damaged.
 - 1. Label seed containers with the following minimum information:
 - a. Botanical name and common name.
 - b. Net weight.
 - c. Percentages of seeds by weight.
 - d. Percentage of germination.

- e. Amount of undesirable plant seeds present in mixture.
 - f. Date of production.
 - g. Name and address of supplier.
- F. The OWNER/ENGINEER shall reserve the right to refuse any plant material that is unacceptable upon delivery to site.
- G. Changes and/or substitutions of plant materials from what is specified on the drawings are unacceptable without prior written authorization from OWNER/ENGINEER.
- H. All plant materials shall be inspected and approved by OWNER/ENGINEER prior to installation on-site.

PART 2 – PRODUCTS

2.1 IMPORTED SOILS

- A. Topsoil: Refer to Section 02216 for topsoil specifications.

2.2 PLANT STOCK

- A. Furnish plant species and sizes as indicated on the Plans. Substitutions in plant species or size can be made only by written approval of the OWNER/ENGINEER.
- B. Plant stock shall be true to their name as specified.
- C. Use commercially available plant stock that has been raised in local (Southeast Michigan) nurseries under similar climatic conditions. No plant stock or seeds shall be accepted from outside the Great Lakes ecoregion without prior written approval from the OWNER/ENGINEER.
- D. Plants and seeds shall be free of insects and diseases.
- E. Plants shall exhibit a balanced growth habit, and shall show appearance of healthy growth and vigor.
- F. Trees and shrubs shall have intact root balls with original earth firmly in place around roots. Non-containerized trees and shrubs shall be wrapped tightly and securely with untreated burlap and, if necessary, shall be tied securely with a biodegradable natural fiber twine such as sisal, hemp, or jute to provide further protection for root ball. Plants balled using non-biodegradable burlap will not be accepted.
- G. Container-grown plants must have been grown in container for at least 1 full growing season. Root systems shall not be tightly bound or wound in a spiral within pot or show “pot-bound root” ends. Root systems shall be freely spreading and properly pruned so that plants, shrubs, and trees will rapidly adapt and become established when installed.
- H. Acceptable nurseries include, but are not limited to:

1. Genesis Nursery – Tampico, Illinois 1-815-438-2220
2. The Native Plant Nursery – Ann Arbor, Michigan 734-677-3260
3. Wildtype Native Plant Nursery – Mason, Michigan 517-244-1140
4. Michigan Wildflower Farm – Portland, Michigan 517-647-6010
5. Wetlands Nursery – Saginaw, Michigan 989-752-3492

2.3 SEED STOCK

- A.** Seed Mix shall include species and LBS/AC as indicated on the plans.
1. Seed mixtures shall be blended by supplier at specified ratios of various species and shall be guaranteed by supplier as being true to specifications.
 2. Seed shall be “clean” according to industry quality standards.
- B.** Seed Mixes shall contain no more than 1 percent by weight of undesirable plants species, as defined below, determined by standard purity tests.
1. Undesirable species for native seed areas and turf grass areas: Black Bentgrass (*Agrostis gigantea*), Bermuda Grass (*Cynodon dactylon*), Field Bindweed (*Convolvulus arvensis*), Blackberry (*Rubus V. Eubatus Flagellares spp.*), Burdock (*Arctium spp.*), Canada Thistle (*Cirsium arvense*), Chickweed (*Stellaria media*), Common Buckthorn (*Rhamnus cathartica*), Crabgrass (*Digitaria sanguinalis*), Cress (*Barbareaa spp.*), Dandelion (*Taraxacum officinale*), Dog Strangling Vine (*Cynanchum spp.*), Garlic Mustard (*Alliaria petiolata*), Glossy Buckthorn (*Rhamnus frangula*), Lambsquarters (*Chenopodium album*), Jimsonweed (*Datura stramonium*), Johnson Grass (*Sorghum vulgare*), Morning Glory (*Ipomoea sp.*), Mustards (*Cruciferae sp.*), Nimble Will (*Polygonum auberti*, *P. convolvulus*, *P. cristatum*, *P. cuspidatum*, *P. sachalinense*, *P. scandens*), Nutgrass (*Cyperus rotundus*), Poison Sumac (*Rhus vernix*), Poison Ivy (*Toxicodendron radicans*), Quackgrass (*Agropyron repens*, *A. pseudorepens*), Ragweed (*Ambrosia artemisiifolia*, *A. trifida*), Rush Grass (*Sporobolus spp.*), Sheep Sorrel (*Rumex acetosella*), Sweet Clover (*Melilotus spp.*), Tansy (*Tanacetum vulgare*), Tatarian Honeysuckle (*Lonicera tatarica*), Teasel (*Dipsacus laciniatus*, *D. sylvestris*), Wild Garlic (*Allium canadense*).
- C.** Seed shall contain no federal or state listed noxious or invasive weeds (an amount within the tolerance of zero percent) as determined by a standard purity test.
- D.** Seed mix substitutions can be made only by written approval of the OWNER/ENGINEER.

2.4 MULCH

- A. Mulch for all woody and herbaceous plant stock shall be composed of shredded hardwood bark. Mulch shall not contain any foreign material, debris, or compounds that may be detrimental to plant growth.
- B. Straw mulch shall be seed-free wheat straw. Mulch shall be clean, and free of weeds or other undesirable species. Mulch shall not be brittle, molded, or rotted, and shall be in air-dry condition suitable for placing with mulch blower equipment. The mulch will be subject to inspection and approval by the OWNER/ENGINEER prior to the application of mulch by the CONTRACTOR.
- C. Obtain OWNER/ENGINEER's approval prior to use of other types of mulch.

2.5 BACKFILL SOIL

- A. Backfill soil for planting pits shall consist of 50% excavated material and 50% imported topsoil and shall be finely divided, loose, and free of clods. Lumps, stone, litter, and other foreign non-organic material larger than 1 inch shall be removed. Non-desirable organic matter, including plants, roots, weeds, and perennial rhizomes shall also be removed. If additional soil is required, topsoil shall be used.

2.7 HERBICIDES AND PESTICIDES

- A. Any herbicide or pesticide intended for use on site must be approved by the OWNER/ENGINEER prior to use.
- B. Herbicides shall have Glyphosate as the primary active ingredient.
- C. The use of pesticides is not recommended and will only be approved under extreme circumstances. Under no circumstances will pesticide application be allowed in detention areas, swales, or other areas where the risk of surface water contamination exists.

2.8 EQUIPMENT

- A. Seeding Equipment: Obtain OWNER/ENGINEER's approval prior to use. The following requirements apply to specific equipment that may be used in seeding activities:
 - 1. Tractors and Crawlers: Shall have low-pressure flotation tires or broad tracks so that soil compaction is minimized in areas of Site preparation or seeding activities.
 - 2. Disc: In good repair with sound unbroken blades; weighted as necessary to achieve required tillage depth.
 - 3. Rollers or Cultipackers: Minimum 6-inch diameter rollers; of sufficient weight to pulverize clods of soil. To be used following rough grading on subgrade soils as a preparation for installation of seedbed soils.

4. Airway Shattertyne: Roller tynes shall be 10 to 12 inch OD so that topsoil or organic-rich common fill and surface mulches are mixed into top 2 to 4 inches of subgrade. Weighting of this equipment should be minimal so as to avoid compaction of organic-rich common fill.
5. Hydraulic Seeder: Hydraulic seeding equipment shall include a pump rated and operated at no less than 100 gpm and no less than 100 psi pressure. Tank shall have a mechanical agitator powerful enough to keep seed in suspension in mixture.
6. Spinning Disc Seeder: When spinning disc seeders are used, mix individual seeds comprising mixture with an appropriate dispersal medium such as damp sterile sand or sawdust prior to sowing.
7. Tractor-drawn or Mounted Seeders: Provide with a calibrated adjustable gate opening providing uniform flow over a width adapted to work and able to drop seed directly on prepared seedbed. Obtain OWNER/ENGINEER'S approval prior to using this system. Equipment shall be equipped with low pressure/high flotation tires or wide tracks which shall result in minimal disruption and compaction of graded wetland surfaces.
8. Broadcast Seeders: Hand methods (cyclone seeders) and mechanical tractor-drawn methods.
9. No-Till Planters and Drills: Rangeland type grass drills and no-till rangeland grass drill planters shall be designed specifically for seeding native grasses and forbs.

PART 3 – EXECUTION

3.1 SEQUENCING AND SCHEDULING

- A. Submit a Landscaping Work Plan for approval prior to mobilization to Site for landscaping.
- B. Incorporate sequencing and scheduling aspects of Sediment and Erosion Control Plan, refer to Section 02220 – Soil Erosion Control.
- C. Schedule topsoil placement to permit seeding and planting operations under optimum growing conditions during specified planting time frames. Plant and seed soils within 7 days of topsoil placement.
- D. Plant stock shall be installed according to the following time frames:
 1. Woody and herbaceous plant stock May 15 through June 15 or September 1 through September 30.
 2. Spring Seeding Schedule: After May 1, (when soil is free of frost and in workable condition), but before June 15 or as directed by consultant.

3. Fall Seeding Schedule: After September 15, but before November 30 (or prior to freeze-up) or as directed by consultant

3.2 PLANTING - GENERAL

- A. Do not proceed with planting in any area until necessary modifications and/or corrections determined during pre-planting examination are completed and approved by OWNER/ENGINEER. Begin installation within 48 hours after approval by OWNER/ENGINEER. If conditions detrimental to installation or plant growth or safety of planting crew are encountered, immediately notify OWNER/ENGINEER prior to planting. Support approvals, disapprovals, and notifications by written documents containing details of circumstances involved.
- B. Maintain Sediment and Erosion Control Plan in conformance with applicable regulations and as approved by OWNER/ENGINEER. Refer to Section 02220 – Soil Erosion and Sedimentation Control.
- C. Protect finish-graded areas from damage by vehicular or pedestrian traffic and erosion. Maintain drainage patterns as indicated on the drawings. Re-till areas compacted by construction to a minimum depth of 6 inches. Rework and restore any areas compacted or damaged by rain, traffic, or other cause, prior to planting.
- D. Environmental Requirements
 1. Do not conduct seeding or planting operations when soil is frozen. Materials shall not be applied over snow or ice.
 2. Do not undertake seeding and planting activities during stormy weather when excessive precipitation may result in washing of seed away from location intended.
 3. Do not install plant materials during periods of temperature extremes when atmospheric temperature may drop below 36 degrees F or rise above 90 degrees F.
 4. Do not apply seeds, seed mixtures, slurries with seeds, or mulch when wind conditions are such that materials would be carried beyond designated areas or materials would not be uniformly applied.
 5. When drought, excessive moisture, or other unsatisfactory conditions prevail, as determined by the OWNER/ENGINEER, the CONTRACTOR will stop work.

3.3 WOODY AND HERBACEOUS PLANTING

- A. Perform planting within time guidelines specified.
- B. Obtain OWNER/ENGINEER's approval of soil bed preparation, Plant Stock Certificates, and layout before planting. No plant material shall be installed until it has been inspected and approved for planting by the OWNER/ENGINEER.

- C. If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the OWNER/ENGINEER. Where location or spacing dimensions are not clearly shown, request clarification by the OWNER/ENGINEER.
- D. If drainage conditions are questionable, the CONTRACTOR shall bring it to the attention of the OWNER/ENGINEER. Adjustment in planting pit locations or elevations to accommodate drainage concerns shall be approved by the OWNER/ENGINEER. Surface drainage problems discovered after plant material is installed shall be corrected to the satisfaction of the OWNER/ENGINEER at the CONTRACTOR's expense.
- E. Excavate tree, shrub and herbaceous planting pits as shown on the plans. Scarify sides of the pit prior to planting.
- F. Remove non-biodegradable containers prior to planting. Remove plants from containers without disturbing the rootball. All circling roots (root bound) shall be cut and straightened to ensure correct directional root growth after planting.
- G. For balled and wrapped plant stock remove burlap and ropes from top 1/3 of ball after placing plant in pit. If metal baskets are present, remove baskets prior to installation.
- H. All plants shall be set plumb and straight, and centered in the pit. Plant root masses shall be in relation to finish grade as shown on the plans.
- I. After positioning plant, place specified backfill soil around root mass and compact lightly. When pit is 2/3 full, add water to soak thoroughly, then backfill to surrounding grade. Gently tamp soil firm.
- J. Create a continuous saucer around the perimeter of each plant pit to aid retention of irrigation water as shown on the plans.
- K. Water plant stock again immediately after planting such that root zone is thoroughly soaked and air pockets are removed.
- L. Any unused soil shall be removed from planting area to preserve finished grades.
- N. Any tree or shrub thrown out of plumb by wind action or other causes shall be replanted by loosening the soil around the root system and re-plumbing the tree or shrub by adjusting the position of the root system. Adjustment shall not be made by pushing, pulling, or restraining the trunk or stem. If, in the opinion of the OWNER/ENGINEER, damage to the root system has occurred as a result of re-plumbing, the tree or shrub shall be replaced by the CONTRACTOR.
- O. Provide specified mulch for woody and herbaceous plants. Mulch plants within 24 hours of planting or as directed by OWNER/ENGINEER.
- P. Prune each tree and shrub upon completion of planting to remove dead, broken, or injured branches and to compensate for any root loss incurred during transplanting. Retain natural shape of tree and leave as little stub as possible. Never cut leader. Cuts

not made at the base of a branch shall be at a 45 degree angle and approximately ½ inch above a live leaf or bud. Pruning shall be done with a sharp tool to produce a clean cut without bruising or tearing the bark. Pruning shall be carried out in accordance with accepted arboricultural practices for size and species of vegetation.

- Q. Remove any dead or broken material from herbaceous plants upon completion of planting.

3.4 SEEDING

- A. Perform seeding within time guidelines specified. Seed must be applied to seedbed within 7 days after topsoil placement. If spring seeding, all forb seed (non-grass seed) must be moist stratified.
- B. All areas intended for seeding shall be free of weeds and other vegetation. Where necessary, infested areas shall be treated by the CONTRACTOR with an approved selective herbicide as approved by OWNER/ENGINEER.
- C. Seedbed soil shall be finely divided, loose, and free of clods. Lumps, stone, litter, and other foreign non-organic material larger than 1 inch shall be removed. Non-desirable organic matter, including plants, roots, weeds, and perennial rhizomes shall also be removed.
- D. Use seeding rates as indicated by seed manufacturer recommendations unless alternative mixtures and application formulas are reviewed and approved by OWNER/ENGINEER.
- E. Follow seed manufacturer recommendations for seed installation. Seeding method selected shall ensure complete coverage of designated area. Re-seed areas with gaps in seeding at no additional cost to OWNER.
- F. Where obstacles, saturated soils, or other site conditions make use of mechanical seeding equipment impractical, hand broadcast techniques shall be used.
- G. For hand broadcasting, broadcast seed into soil to a maximum depth of ¼ inch within 12 hours by raking soil or chain dragging, then lightly compacting seedbed with roller or approved equivalent.
- H. All seeded areas with slopes 3:1 or steeper shall be covered with approved Straw Erosion Control Blanket. Use specified stakes to secure blanket to slope per manufacturer's recommendation. Provide 2-4 inches of overlap along edges of blanket sections, and 6 inches of overlap at blanket ends.

3.5 ESTABLISHMENT AND PERFORMANCE STANDARDS

- A. Maintenance and warranty work will be as described in Section 02975 Landscape Maintenance Period, unless otherwise described herein.

- B. The Landscape Architect shall conduct a time meander search for each overstory and understory community. The search shall be conducted at the end of the first full growing season. The search will randomly sample 20% of the area for each community that was seeded and/or planted.
- C. If 75% of the species seeded and/or planted are alive and apparent and the sample area has 80% ground cover of acceptable species, the work will be accepted. If not accepted, the Contractor will replant all areas designated by the Landscape Architect in accordance with the requirements of the specifications at his/her sole expense. All soil preparation and installation methods for replacements will be recommended by the Contractor and require Landscape Architect's approval.

3.6 SITE CLEAN UP

- A. Immediately clean up excess soil, mulch, or other debris and properly dispose of deleterious materials legally off-site in a manner consistent with local laws. Take necessary precautions to prevent contamination of clean areas as a result of cleaning operations.
- B. All paved areas shall be swept free of soil, stains and debris.
- C. Promptly remove equipment and unused materials at completion of activities in given area.
- D. Return stockpile and storage areas to their original grade and restore ground surfaces after stored material has been removed.
- E. Immediately repair damaged vegetation and aerate soil over root zone of negatively impacted vegetation.

3.7 PROTECTION OF FINISHED WORK

- A. Mark seeded and planted areas to prevent intrusion by foot traffic and/or equipment.
- B. Immediately restore areas disturbed by continuing operations.
- C. Maintenance Guarantee shall conform to Section 02975.

END OF SECTION

SECTION 02975

LANDSCAPE MAINTENANCE PERIOD

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Weed Control and Prevention
2. Pest Control and Prevention
3. Disease Control and Prevention
4. Pruning of Plant Material
5. Replacement of Dead or Unhealthy Plant Material
6. Repair of Staking and Guying System
7. Watering Plant Material

B. Related Sections:

1. Section 01025 Measurement and Payment
2. Section 01040 Coordination
3. Section 01700 Contract Closeout
4. Section 02930 Landscaping

1.2 REFERENCES

A. ANSI - American National Standards Institute:

1. American Standard for Nursery Stock, ANSI Z60.1-1990

B. NAAPS - National Arborist Association Pruning Standards

C. ICBN - International Code of Botanical Nomenclature

D. ICNCP - International Code of Nomenclature of Cultivated Plants

1.3 DEFINITIONS

A. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of Landscape Architect in writing.

B. Product Purchase and Delivery Documentation:

1. Fertilizer for lawn areas: Submit 3 copies of purchase orders, invoices and receipts showing supplier name and address, person who sold product, date of purchase, specific product purchased, quantity purchased, and if delivery by supplier show delivery date.

- C. Documentation of Accepted Conditions: Within 7 working days after Final Acceptance, submit color photographs and a written report documenting the accepted conditions of the plant material.

1.4 SUBMITTALS

- A. General: Meet requirements of Section 01300

- B. Documentation of Accepted Conditions: Within 7 working days after Final Acceptance, submit color photographs and a written report documenting the accepted conditions of the plant material.

1.5 QUALITY ASSURANCE

A. Contractor Qualifications:

1. Maintenance Contractor: Minimum 10 years experience in maintenance of commercial landscape projects.
2. Maintenance Supervisor: Minimum of 10 years experience in landscape maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification.
3. Labor Force: Thoroughly familiar and trained in the work to be accomplished and perform the task in a competent, efficient manner acceptable to the Owner.
4. Supervision: The foreman shall directly employ and supervise the work force at all times.

B. Notification of Change in Supervision: Notify Owner of all changes in supervision.

1. Identification: Provide proper identification at all times for landscape maintenance firm's labor force.

C. Regulatory Requirements:

1. Perform all work in accordance with all applicable laws, codes, and regulations required by authorities having jurisdiction over such work.
2. Provide for all inspections and permits required by Federal, State, or local authorities in furnishing, transporting, and installing of all agricultural chemicals.
3. Submit a record of all herbicides, insecticides and disease control chemicals used to the local regulatory agency as required by law.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish standard products in unopened manufacturer's standard containers bearing original labels showing quantity, analysis and name of manufacturer.

- B. Storage: Store products with protection from weather or other conditions that would damage or impair the effectiveness of the product.

- C. Handling: Do not lift or handle container plants by tops, stems or trunks at any time. Do not bind or handle plants with wire or rope at any time.
- D. Anti-Desiccant: Spray all evergreen or deciduous plant material in full leaf immediately before transporting with anti-desiccant. Apply an adequate film over trunks, branches, twigs and foliage.
- E. Digging: Dig ball and burlap (B & B) plants with firm, natural balls of earth of diameter meeting requirements of ANSI Z60.1-1990, and of sufficient depth to include the fibrous and feeding roots.

1.7 SEQUENCING AND SCHEDULING

A. Work Schedule:

1. Work Hours: Perform all maintenance during hours accepted by Owner.
2. Initial Maintenance Period: Work force shall be present at the project site at least once a week and as often as necessary to perform specified maintenance in accordance with the accepted maintenance schedule. This period begins at installation and continues through final acceptance.
3. Maintenance Period: A minimum of one visit is required for each of the following times during the Maintenance Period.

June 1 - June 15

June 23 July 7

July 15 - July 29

August 4 August 18

September 5 - September 19

November 1 November 15

These visits shall occur for one calendar year after installation.

4. Guarantee: The CONTRACTOR shall guarantee all landscaping specified herein for one (1) growing season (May through November) following approval of Preliminary Inspection. The CONTRACTOR shall respond within two (2) weeks of written requests by the OWNER for replacement/repair. If the CONTRACTOR fails to respond within this time, the OWNER may proceed with replacement work and bill the Contractor.
5. Verification: Verification of visits may be required by the Owner in the form of reports and/or certified payroll covering the visits.

PART 2 PRODUCTS

2.1 MATERIALS

A. Replacement Plant Material:

1. Match existing genus, species, cultivar and size.
2. Meet requirements of these specifications.
3. Meet requirements of ANSI Z60.1-1990, ICBN and ICNCP.

B. Upland Seed:

1. Match existing genus, species, cultivar and size.

C. Granular Fertilizers for Upland Seed Areas:

1. Complete fertilizer with NPK ratios of 1-1-1 or 2-2-1 or 2-3-2.

D. Herbicides, Insecticides, and Fungicides: Legal commercial quality non-staining materials with original manufacturers' containers, properly labeled with guaranteed analysis, as recommended by licensed applicators.

E. Mulch: Same as original installation.

PART 3 EXECUTION

3.1 PREPARATION

A. Protection of Existing Conditions:

1. General: Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of the work.
2. Barriers: Provide barricades, fences or other barriers as necessary to protect existing conditions from damage during maintenance operations.
3. Hazardous Operations: Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants.
4. Notification: Give written notification of all damaged plants and structures.
5. Replacement of plant material: Replace existing plants which are damaged during maintenance with plants of the same species and size as those damaged at no cost to the Owner.

3.2 INITIAL MAINTENANCE PERIOD: Continuously maintain each plant and each portion after installation, during progress of work, and for a minimum period of 90 days after Preliminary Acceptance until Final Acceptance.

3.3 WARRANTY MAINTENANCE PERIOD: Continuously maintain each plant and each portion after Final Acceptance for the period of time specified herein.

3.4 TREE AND PLANT MAINTENANCE

A. Watering:

1. Watering of all plant material. For optimum plant growth, plant material shall be kept moist (1" total water per week, including rainfall) until vegetation is 4" high typical.
2. Maintain watering basins around all trees and shrubs so that enough water can be applied to establish moisture through major root zones.
3. Using a soil sample tube, check rootball moisture and surrounding soil moisture at representative plants at least twice a week.
4. Adjust frequency and length of time for watering cycles according to changing soil and weather conditions.
5. Maintain originally specified depth of mulch to reduce evaporation and frequency of watering.

B. Settled or Leaning Plants: Reset plants to proper grades or upright position.

C. Weed Control:

1. Weeding and control of undesirable plants by approved methods. Spot spraying or hand wicking of an herbicide application may be required to deter aggressive persistent non-native species. Avoid herbicide contact with native plant material.
2. Keep all areas between plants, including watering basins, weed free.
3. Use only legally accepted herbicides to control weed growth.
4. Avoid frequent soil cultivation that destroys shallow roots and breaks the seal of pre-emergent herbicides.

D. Mulching: Re-mulch at the beginning of each growing season according to Section 02930. At the end of the guarantee, all mulch shall be at required depths and widths around all plant materials.

E. Pest Control: Apply sprays and treatments as necessary for scale insects, leaf eating insects and fire blight control. Apply according to manufacturer's current printed instructions and in accordance with local ordinances.

F. Pruning:

1. General: Meet requirements of NAAPS.
2. Prune trees to select and develop permanent scaffold branches that are smaller in diameter than the trunk or branch to which they are attached, and which have vertical spacing of 18 inches to 48 inches and radial orientation so as not to overlay one another.
3. Prune trees to eliminate diseased or damaged growth, and narrow V-shaped branch forks that lack strength. Reduce toppling and wind damage by thinning out crowns.
4. Prune trees to maintain growth within space limitations, maintaining a natural appearance and balancing crown with roots.
5. Retain lower branches in a "tipped back" or pinched condition to promote caliper trunk growth (tapered trunk). Do not cut back to fewer than six buds or leaves on such branches. Only cut lower branches flush with the trunk after the tree is able to stand erect without staking or other support.
6. Prune damaged trees or those that constitute health or safety hazards at any time of year as required.
7. Make all cuts clean and close to the trunk, without cutting into the branch collar. "Stubbing" will not be permitted. Cut smaller branches flush with trunk or lateral branch. Make larger cuts (one inch in diameter or larger) parallel to shoulder rings, with the top edge of the cut at the trunk or lateral branch.

G. Staking:

1. Remove all stakes at the end of the Warranty Maintenance Period.

H. Replacement of Plants: Replace, without cost to Owner, and as soon as weather conditions permit, all plants not in a vigorous, thriving condition, during and at the end of the maintenance period.

3.5 LAWN

A. Watering:

1. Using a soil sampling tube, check for moisture penetration throughout the root zone at least twice a week.
2. Water lawns at such frequency as weather conditions require, to replenish soil moisture to 6 inches below root zone.
3. Provide a total of 1½ inches of water weekly during hot summer weather, in 3 applications per week.
4. Water at night if irrigation system is electrically controlled. Otherwise, watering shall be done during early mornings.

B. Weed Control

1. Control broadleaf weeds with selective herbicides.
2. In areas where crabgrass has infested the lawn, apply a selective post-emergent herbicide as soon as possible, and prior to flowering.
3. Apply pre-emergent herbicides prior to crabgrass germination.
4. Do not irrigate for 48 hours after application of all herbicide sprays.
5. Coordinate application of herbicides with thatch control and reseeding schedule as described below.

C. Mowing and Edging:

1. Mow to a height of 2 inches when it reaches a height of 2½ inches.
2. Trim edges at least twice a month or as needed for neat appearance.
3. Remove and dispose of grass clippings.

D. 60 Day Fertilization: Between 45th and 50th day after planting broadcast Gro Power Hi-Nitrogen (14-4-9), or approved equal, at 1 lb. nitrogen per 1,000 sq. ft. and water thoroughly.

E. 90 Day Fertilization: Between 80th and 85th day after planting broadcast Gro Power Premium Hi-Nitrogen (18-3-7), or approved equal, at 1½ lbs. nitrogen per 1,000 sq. ft. and water thoroughly.

F. Extended Maintenance Period: If the Initial Maintenance Period is extended past 90 days by fault of Contractor, reapply 60 day fertilization alternating with 90 day fertilization every 60 days during growing season, until Owner accepts maintenance.

G. Reseeding of Lawn Areas: Replace, without cost to Owner, and as soon as weather conditions permit, all lawn areas not in a vigorous, thriving condition, during and at the end of the maintenance period. Match existing lawn.

3.7 INSECTS, PESTS, AND DISEASE CONTROL

A. Inspection: Inspect all plant materials weekly for signs of stress and damage.

B. Treatment: Treat as required to prevent and control insects, pests and diseases.

3.8 FIELD QUALITY CONTROL

A. Preliminary Review:

1. Upon the complete installation of the landscape work, request a review by the Landscape Architect to determine whether all landscape work conforms to the requirements of the Contract Documents.
 2. Submit a written request at least five working days prior to the anticipated date of review.
 3. If it is found that the landscape work does not conform to the requirements of the Contract Documents, the Contractor will receive written notification from the Landscape Architect of all corrective work preventing Preliminary Acceptance of the landscape work.
 4. Perform corrective work within ten calendar days after the Preliminary Review.
 5. Upon completion of the corrective work, request another Preliminary Review to determine whether all landscape work conforms to the requirements of the Contract Documents.
 6. Corrective work followed by review will be required until the corrective work is found to be complete by the Landscape Architect.
- B. Payment for Additional Preliminary Review Field Trips: Reimburse Owner for expenses and fee required to have Landscape Architect make additional field trips for preliminary review.
- C. Preliminary Acceptance:
1. When the Landscape Architect determines that the landscape work conforms to the requirements of the Contract Documents the Contractor will receive a written notification of Preliminary Acceptance.
 2. The Initial Maintenance Period will commence upon the date specified by the notification of Preliminary Acceptance.
- D. Final Review:
1. At the end of the Initial Maintenance Period, request a review by the Landscape Architect to determine whether all landscape and maintenance work conforms to the requirements of the Contract Documents.
 2. Submit a written request at least five working days before the expected date of review.
 3. If it is found that all landscape and maintenance work does not conform to the requirements of the Contract Documents, the Contractor will receive written notification from the Landscape Architect of all corrective work preventing Final Acceptance of the landscape and maintenance work.
 4. Perform corrective within ten calendar days after the Final Review.
 5. Upon completion of the corrective work, request another Final Review to determine whether all landscape and maintenance work conforms to the requirements of the Contract Documents.
 6. Corrective work followed by review will be required until the corrective work is found to be complete by the Landscape Architect.
- E. Payment for Additional Final Review Field Trips: Reimburse Owner for expenses and fee required to have Landscape Architect make additional field trips for final review.
- F. Final Acceptance:
1. When the Landscape Architect determines that the landscape and maintenance work conforms to the requirements of the Contract Documents the Contractor will receive a written notification of Final Acceptance.

2. Continue maintenance of all landscape work until the date that the Owner accepts maintenance at the end of the Warranty Maintenance Period.
3. The Owner will accept maintenance responsibility upon the date specified in the notification of Final Acceptance.

END OF SECTION

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

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

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

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

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

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

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

- c. Unbalanced Bidding.** The City of Ann Arbor will examine the submitted cost for this item of work prior to contract award. If the City determines, in its sole discretion, that the costs bid by the Contractor for complying with the contract requirements are not reasonable, accurately reported, or may contain discrepancies, the City reserves the right to request additional documentation that fully supports and justifies the price as bid. Should the submitted information not be determined to be reasonable or justify the costs, the City reserves the right to reject the bid.

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

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

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

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

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

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULING**

The Contractor shall begin work on this Contract within one week of the receipt of the Notice to Proceed. In no case shall any work begin prior to receipt of a formal notice of award by the City of Ann Arbor.

The estimated start date of construct activities is April 1, 2018.

The entire work on this contract, including all cleanup and restoration (but excluding Landscape Maintenance) shall be completed on or before July 1, 2018.

This project is on an expedited schedule. Time is of the essence in the performance of the work of this contract. The Contractor shall organize its operations and mobilize sufficient personnel and equipment, and work the required overtime to complete the project within the timeframe specified herein.

Failure to initiate and/or complete work by the above described timeframe shall require the Contractor to pay the City as Liquidated Damages, and not as penalty, the sum of \$500 dollars for each and every calendar day that the Contractor may be in default of initiation and/or completion of the specified work, within the time stated, or time extension(s) granted thereto.

All liquidated damages amounts are additive and may be charged concurrently. Should the Engineer approve a request for an extension of contract time, liquidated damages will be based on the revised time for which the extension specifically applies.

Costs for the Contractor to organize, coordinate, and schedule all of the work of the project, will not be paid for separately, but shall be considered to be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
PROJECT SUPERVISION**

DESCRIPTION

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

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

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

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

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

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

DUTIES AND RESPONSIBILITIES

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

The Project Supervisor shall have a thorough, detailed understanding and working knowledge of all construction practices and methods specified elsewhere herein.

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

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

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

The Project Supervisor shall schedule and coordinate the work of all parties involved in the project, including utility

companies, testing agencies, governmental agencies, all City departments (such as Utilities and Transportation), and City inspectors.

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

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

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

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

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

Costs for Project Supervision will not be paid for separately, but shall be considered to be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS**

DESCRIPTION

General Conditions include, but are not limited to, items such as:

- Scheduling and organization of all work, subcontractors, suppliers, and inspection
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities
- Protection and maintenance of street features such as signs, signals, trees, etc.
- Placing, maintaining, and removing all soil erosion and sedimentation controls
- Maintaining drainage
- Maintaining drives, drive openings, sidewalks, bikepaths, mail deliveries, and solid waste/recycle pick-ups
- Storing all materials and equipment off pavement areas
- Site clean-up
- Additional mobilization(s) and demobilization(s)
- Furnishing submittals and certifications for materials and supplies
- Parking meter bags
- Disposing of materials and debris
- All miscellaneous and incidental items such as overhead, insurance, bonds, and permits.

Costs for General Conditions will not be paid for separately, but shall be considered to be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
TRAFFIC CONTROL**

DESCRIPTION

This work shall consist of protecting and maintaining vehicular and pedestrian traffic, in accordance with Sections 103.05, 103.06, and 812, of the 2012 MDOT Standard Specifications for Construction; Part 6 of the Michigan Manual of Uniform Traffic Control Devices, Latest Revised Edition (MMUTCD); and the City Standard Specifications, except as modified herein.

MATERIALS, EQUIPMENT, AND METHODS

The work of Traffic Control shall include, but not be limited to:

- Obtaining City of Ann Arbor Permit to work in the Right of Way;
- Obtaining lane closure permit(s);
- The furnishing and operating of lighted plastic drums
- The furnishing and operating of Type III lighted barricades
- The furnishing and operating of all temporary "Type B" signs
- The furnishing and operating of arrow panels as required by the Engineer
- The furnishing of signposts and installation of No Parking signs
- The furnishing and operating of miscellaneous signs, warning devices, flag-persons, and cones;
- The operation of additional signs furnished by the City;
- Furnishing and installing meter bags;
- Coordinating with the City to have meter heads removed and reinstalled;
- Maintaining pedestrian traffic;
- Temporarily covering traffic controls;
- Temporarily covering existing signs as directed;
- Any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

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

The Contractor shall maintain two-way traffic on streets, and keep all driveways and intersections open to traffic at all times, unless specifically authorized otherwise in writing by the Engineer. The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. The Contractor shall maintain vehicular and pedestrian traffic during the work by the use of flag-persons, channelizing devices, and signs as necessary, as directed by the Engineer, and in accordance with MMUTCD.

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.

A lane-closure permit shall be obtained by the Contractor from the City at least 48 hours in advance of work at each location. The City will provide the permits at no cost to the Contractor.

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

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

The Contractor shall replace missing or damaged traffic control devices, as directed by the Engineer. When traffic

control devices have been damaged by, or due to, the negligence of the Contractor, his subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

The Contractor shall furnish and operate all lighted arrow boards; lighted plastic drums; type III barricades; and Type B temporary signs as directed by the Engineer. Specifically:

- Lighted Arrow boards shall be type A or B as directed by the Engineer, and shall be electric powered (either battery or solar). Motor generators using gasoline, diesel, LP gas, or other such fuel are not approved for use.
- Type III Barricades shall have standard orange-and-white stripes on both sides of the barricade.
- "Construction Ahead" warning signs shall be placed as directed by the Engineer prior to the start of work, regardless of the nature, magnitude, or duration of the work.

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

Prohibiting Parking

On occasions where the Contractor shall need to reserve parking areas for staging equipment, prior to the commencement of any construction activity, the Contractor shall place No-Parking signs as directed by the Engineer. The Contractor shall obtain a permit for "Temporary Permission of Reserve Parking Lane for Work Related Purposes" from the City of Ann Arbor Project Management Services Unit. This permit shall be obtained a minimum of 5 days prior to the posting of No-Parking signs.

The City will furnish No-Parking signs to the Contractor at no cost. The Contractor shall furnish the signposts and shall securely bolt the signs to the signposts as directed by the Engineer. The Contractor shall install the signposts at least 2-feet deep into the ground, and there shall be a minimum 6-foot and maximum 7-foot clearance maintained between the bottom of the sign and the ground. The signs shall be placed at 75-foot intervals (or as necessary) to eliminate parking in the construction area.

The installation of No-Parking signs shall be in accordance with the permit. No-Parking signs shall be installed by the Contractor, as directed by the Engineer, **at least 48 hours prior to the proposed start-of-work/enforcement date.**

No-Parking signs shall be returned to the City at the completion of the work. The cost of unreturned signs will be back charged to the Contractor.

No-Parking signs shall be covered by the Contractor, thereby allowing on-street parking, until between 48 and 36 hours prior to the start of the work. No-Parking signs shall be covered by the Contractor whenever there is no work being performed for a period of time longer than 72 hours.

Where there is metered parking, the Contractor shall install meter bags.

Costs for Traffic Control will be paid on a lump sum basis proportional to the percent completion of project unit price pay items.

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

The Contractor is reminded as to the requirements of article 104.07 of the 2012 edition of the MDOT Standard Specifications, "Cooperation by the Contractor."

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

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

The following Utility Owners may have overhead and/or underground facilities located within the Right-of-Way:

The City of Ann Arbor
DTE - MichCon (Michigan Consolidated Gas Company)
DTE - Edison (Detroit Edison Company)
SBC - (Ameritech)
Comcast
MCI Communications
Sprint Communications
The University of Michigan

On all projects:

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

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

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

Costs for this work will not be paid for separately, but shall be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
PROTECTION OF UTILITIES**

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

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

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

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

Costs for this work will not be paid for separately, but shall be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
SITE CLEAN-UP**

Immediately after completion of construction on each street, the Contractor shall clean the entire area within the influence of construction, including but not limited to all pavement, sidewalks, lawn areas, and underground utility structures, of all materials which may have accumulated prior to or during the construction.

Costs for this work will not be paid for separately, but shall be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
BUY AMERICAN IRON AND STEEL**

The Contractor acknowledges to and for the benefit of the City of Ann Arbor ("Purchaser") that it understands the goods and services under this Agreement comply with provisions commonly known as "American Iron and Steel (AIS);" that require all iron and steel products used in the project be produced in the United States ("AIS Requirements") including iron and steel provided by the Contractor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser that (a) the Contractor has reviewed and understands the AIS Requirements, (b) all iron and steel used in the project will be and/or have been produced in the United States in a manner that complies with the AIS Requirements, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the AIS requirements, as may be requested by the Purchaser.

**DETAILED SPECIFICATION
FOR
MATERIALS AND SUPPLIES CERTIFICATIONS**

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

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

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

Costs for this work will not be paid for separately, but shall be included in the bid price for the individual Contract items.

**DETAILED SPECIFICATION
FOR
CONTRACT DRAWINGS/PLANS**

The Contractor shall carefully check and review all Drawings/Plans and advise the Engineer of any errors or omissions discovered. The Drawings/Plans may be supplemented by such additional Drawings/Plans and sketches as may be necessary or desirable as the work progresses. The Contractor shall perform all work shown on any additional or supplemental Drawings/Plans issued by the Engineer.

**DETAILED SPECIFICATION
FOR
QUANTITIES AND UNIT PRICES**

Quantities as given are approximate and are estimated for bidding purposes. Quantities are not guaranteed and may vary by any amount. While it is the City's intent to complete the project substantially as drawn and specified herein, quantities may be changed or reduced to zero for cost savings or other reasons. **The City reserves the right to change or delete the quantities, and no adjustment in unit price will be made for any change in any quantity.**

**DETAILED SPECIFICATION
FOR
WORKING IN THE RAIN**

The Contractor shall not work in the rain unless authorized in writing by the Engineer.

The Engineer may delay or stop the work due to threatening weather conditions.

The Contractor shall not be compensated for unused materials or downtime due to rain, or the threat of rain.

The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the rain.

**DETAILED SPECIFICATION
FOR
WORKING IN THE DARK**

The Contractor shall not work in the dark except as approved by the Engineer and only when lighting for night work is provided as detailed elsewhere in this contract.

The Engineer may stop the work, or may require the Contractor to defer certain work to another day, if, in the Engineer's opinion, the work cannot be completed within the remaining daylight hours, or if inadequate daylight is present to either properly perform or inspect the work.

The Contractor will not be compensated for unused materials or downtime, when delays or work stoppages are directed by the Engineer for darkness and/or inadequate remaining daylight reasons.

The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the dark.

**DETAILED SPECIFICATION
FOR
GENERAL CONSTRUCTION NOTES**

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

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

CITY OF ANN ARBOR PREVAILING WAGE DECLARATION OF COMPLIANCE

The "wage and employment requirements" of Section 1:320 of Chapter 14 of Title I of the Ann Arbor City Code mandates that the city not enter any contract, understanding or other arrangement for a public improvement for or on behalf of the city unless the contract provides that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. Where the contract and the Ann Arbor City Code are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used. Further, to the extent that any employees of the contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with section 1:320 of Chapter 14 of Title I of the Code of the City of Ann Arbor, employees shall be paid a prescribed minimum level of compensation (i.e. Living Wage) for the time those employees perform work on the contract in conformance with section 1:815 of Chapter 23 of Title I of the Code of the City of Ann Arbor.

At the request of the city, any contractor or subcontractor shall provide satisfactory proof of compliance with this provision.

The Contractor agrees:

- (a) To pay each of its employees whose wage level is required to comply with federal, state or local prevailing wage law, for work covered or funded by this contract with the City,
- (b) To require each subcontractor performing work covered or funded by this contract with the City to pay each of its employees the applicable prescribed wage level under the conditions stated in subsection (a) or (b) above.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the wage and employment provisions of the Chapter 14 of the Ann Arbor City Code. The undersigned certifies that he/she has read and is familiar with the terms of Section 1:320 of Chapter 14 of the Ann Arbor City Code and by executing this Declaration of Compliance obligates his/her employer and any subcontractor employed by it to perform work on the contract to the wage and employment requirements stated herein. The undersigned further acknowledges and agrees that if it is found to be in violation of the wage and employment requirements of Section 1:320 of the Chapter 14 of the Ann Arbor City Code it shall have been deemed a material breach of the terms of the contract and grounds for termination of same by the City.

Company Name

Signature of Authorized Representative Date

Print Name and Title

Address, City, State, Zip

Phone/Email address

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

**CITY OF ANN ARBOR
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE**

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here No. of employees__

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.13/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 \$14.65/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 (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, 2017 - ENDING APRIL 29, 2018

\$13.13 per hour

If the employer provides health care benefits*

\$14.65 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

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

**CITY OF ANN ARBOR
DECLARATION OF COMPLIANCE**

Non-Discrimination Ordinance

The “non discrimination by city contractors” provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor’s Non-Discrimination Ordinance and contract compliance administrative policy.
- (b) To post the City of Ann Arbor’s Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

Company Name

Signature of Authorized Representative

Date

Print Name and Title

Address, City, State, Zip

Phone/Email address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below. You can review the entire ordinance at [www. a2gov.org/departments/city-clerk](http://www.a2gov.org/departments/city-clerk)

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 has a grievance alleging a violation of this chapter, he/she has 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 alleged discriminatory action to file a complaint with the city's Human Rights Commission. If an individual fails to file a complaint alleging a violation of this chapter within the specified time frame, the complaint will not be considered by the Human Rights Commission. The complaint should be made in writing to the Human Rights Commission. The complaint may be filed in person with the City Clerk, by e-mail (hrc@a2gov.org), by phone (734-794-6141) or by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107). The complaint must contain information about the alleged discrimination, such as name, address, phone number of the complainant and location, date and description of the alleged violation of this chapter.

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)
															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	
EMPLOYEE INFORMATION	WORK CLASSIFICATION	Hour Type	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	STATE	OTHER	TOTAL DEDUCT	TOTAL WEEKLY WAGES PAID FOR ALL JOBS
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
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NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$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.	