

INVITATION TO BID

ITB #4285

ANN ARBOR SKATEPARK CONSTRUCTION



Due Date: Wednesday, May 15, 2013 by 10:30 A.M.

Issued By:

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

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ADVERTISEMENT
FOR THE
ANN ARBOR SKATEPARK CONSTRUCTION
CITY OF ANN ARBOR

BID NO. ITB-4285

Sealed Bids will be received by the City of Ann Arbor Procurement Unit, 301 East Huron Street, Fifth Floor, Larcom City Hall, on or before Wednesday, May 15, 2013 by 10:30 A.M. for the construction of Ann Arbor Skatepark Construction. Bids will be publically opened and read aloud at this time.

A pre-bid conference will be held Wednesday, April 24, 2013 at 2:30 PM in the basement conference room of Ann Arbor City Hall, 301 East Huron St, Ann Arbor, Michigan 48104. Attendance is highly recommended.

Work to be done includes grading, concrete in-ground construction of skatepark amenities, including bowls, flat concrete, stormwater infrastructure, rain gardens and bioswales, asphalt path, concrete path, landscaping.

Bid documents, specifications, and addenda, with the exception of the Plans, shall be downloaded by bidders at either of the following websites: Michigan Inter-governmental Trade Network (MITN) www.mitn.info or City of Ann Arbor Purchasing website: www.A2gov.org. It is the bidder's responsibility to verify they have obtained all information before submitting a bid.

Each Bid shall be accompanied by a certified check, or Bid Bond by a recognized surety, in the amount of 5% of the total of the bid price. A Bid, once submitted, becomes the property of the City. In the sole discretion of the City, the City reserves the right to allow a bidder to reclaim submitted documents provided the documents are requested and retrieved no later than 48 hours prior to the scheduled bid opening.

The successful Bidder will be required to furnish satisfactory performance and labor and material bonds in the amount of 100% of the bid price and satisfactory insurance coverage.

Precondition for entering into a Contract with the City of Ann Arbor is compliance with Chapter 112 of Title IX of the Code of the City of Ann Arbor. The successful Bidder may also be required to comply with Chapter 23 of Title I of the Code of the City of Ann Arbor. Further information is outlined in the Contract Documents.

After the time of opening, no Bid may be withdrawn for a period of 90 days. The City reserves the right 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.

Technical questions regarding this project may be submitted in writing to the Consulting Engineer, Wally Hollyday Skateparks, via email at Wally@skatedesign.com Questions

by telephone call are prohibited. Questions directed to the Owner are prohibited. The deadline for questions shall be 5:00 PM on Monday, May 6, 2013. Questions will not be received after this date.

Any further information on bid documents may be obtained from the Procurement Office, (734) 794-6500.

CITY OF ANN ARBOR PROCUREMENT UNIT

NOTICE OF PRE-BID CONFERENCE

A pre-bid conference for this project will be held on Wednesday, April 24, 2013 at 2:30 PM at the City Hall, 301 E. Huron Street, Ann Arbor, Michigan 48104, basement conference room.

Attendance at this conference is highly recommended. Administrative and technical questions regarding this project will be answered at this time. The pre-bid conference 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.

The City shall make available to all prospective Bidders, prior to receipt of the Bids, access to the area in which the work is to be performed. Advance notice should be given to the Administering Service Area/Unit in cases where access to the site must be arranged by the City.

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 Page Numbers ITB 1-3 and on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid.

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 Monday, May 6, 2013, by 5:00 PM and should be addressed as follows:

Specification/Scope of Work questions emailed to Wally Hollyday at

wally@skatedesign.com

Bid Process and HR Compliance questions emailed to KLancaster@a2gov.org.

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 Wednesday, May 15, 2013 by 10:30 A.M. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and two (2) Bid copies in a sealed envelope clearly marked: **ITB 4285 – Ann Arbor Skatepark Construction.**

Bids must be addressed and delivered to:

City of Ann Arbor
Procurement Unit, 5th Floor
301 East Huron Street
P.O. Box 8647
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.

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 9:00 a.m. to 3:00 p.m. Monday through Friday excepting 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 qualified 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.

Qualifications

The City will evaluate Proposals based on cost as well as experience. Contractors that have not included the required list of similar work experience, resumes for project manager and superintendent, and associated references on the Bid Form may have their bid rejected.

Contractor's Required Experience

The skate park contractor shall show evidence of having adequate experience in constructing quality concrete skate parks. In order to be considered for this project, the skate park contractor must have self-performed shotcrete for at least five (5) public poured-in-place concrete skate parks within the last 4 years. The skate parks must be complete and currently in operation. The examples must include features similar in nature to the Ann Arbor project. Experience constructing skatepark bowls in excess of 9 foot deep with pool coping must be included in qualifying examples. The contractor must submit a list of qualifying projects with the name, address, and current telephone number of the Client's operator and Architect of Record. Pre-cast skatepark experience will not be considered as qualifying examples.

The City and its agents reserve the right to consider contractor's references and reputation in determining qualifications of specialty skate park contractor. Acceptance of qualifications to meet minimum specialty skate park contractor requirements will be determined solely at the discretion of the city with prior approval of the design consultant.

All key staff and subcontractors are subject to the approval by the City.

Official Documents

The City of Ann Arbor shall accept no alternates to the bid documents made by the Bidder unless those alternatives are set forth in the "Alternate" section of Bid form.

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.

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 90 days specified in the Advertisement.

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

Section 5, beginning at page GC-3, outlines the requirements for fair employment practices under City of Ann Arbor Contracts. To establish compliance with this Ordinance, the Bidder should complete and return with its bid completed copies of the Human Rights Division Contract Compliance Forms or an acceptable equivalent. In the event Human Rights forms are not submitted with the bid, the bidder will have 24 hours to provide once requested by the City.

Wage Requirements

Section 4, beginning at page GC-2, outlines the requirements for payment of prevailing wages or of a "living wage" to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and provide

documentary proof of compliance when requested.

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.

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

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 Advertisement, Human Rights Division Contract Compliance Forms, 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 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 1, 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 1:319 (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 further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

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 15 DAY OF May, 2013.

Krull Construction

Bidder's Name

859 S. Wagner, Ann Arbor, 48103

Official Address

734-662-5621

Telephone Number


Authorized Signature of Bidder

Randy Krull

(Print Name of Signer Above)

jgarland@krullconstruction.net

Email Address for Award Notice

LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

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

* A partnership, list all members and the street and mailing address of each:

Also identify the County and State where partnership papers are filed:

County of _____, State of _____

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

BID FORM
Section 1 – Schedule of Prices

Project: Ann Arbor Skatepark Construction
ITB # 4285

Bidder's Name: Krull Construction

Notes:

1. All bidders shall provide a Unit Price and Total Price for all bid items specified.
3. The City, at its sole discretion, may elect to delete any portion of the work delineated below, with no change to the unit prices provided. Work shall be determined based upon the availability of funds.
4. Any item not provided in the following list shall be considered incidental.
5. Contract shall be awarded based on the base bid or any combination of the base bid and alternate bid areas in any manner the City believes to be in its best interest.
6. The undersigned as bidder declares that he has carefully examined the location of the proposed work, that he has examined the Special Provisions and read the accompanying instructions to bidders, and hereby proposed and agrees, if the proposal is accepted, to furnish all materials and do all work required to complete the said work in accordance with the said Standard Specifications, and Plans in the time and manner therein prescribed for the unit price set forth in the following schedule.

Item Description	Unit	Unit Price	Total Price
1. Construction staging, security fencing, stormwater pollution protection measures	LS		\$ <u>64,900</u>
2. Clear and grub existing site/debris	LS		\$ <u>12,100</u>
3. All grading	LS		\$ <u>99,500</u>
4. Provide and install storm drain lines, inlets, and grates	LS		\$ <u>140,800</u>
5. Construct concrete shotcrete	LS		\$ <u>357,300</u>
6. Construct concrete paving	LS		\$ <u>160,200</u>
7. Construct cast in place concrete ledges, stairs, walls, and monolithic elements	LS		\$ <u>89,600</u>
8. Construct and install guard rails, metal coping, metal edging, rails, pool coping blocks, tile and pavers	LS		\$ <u>69,800</u>
8a. Shotcrete & Pool Copings	LS		\$ <u>35,800</u>
9. Amend existing soil in planting areas to a depth of 18"	11,415 SF	\$ <u>2.40</u>	\$ <u>27,396</u>
10. Provide and install featured boulders	4 EA	\$ <u>900</u>	\$ <u>3,600</u>
11. Provide and install boulders 18-24"	17 CY	\$ <u>700</u>	\$ <u>11,900</u>
12. Provide and install natural river rock 4-6"	7 CY	\$ <u>400</u>	\$ <u>2,800</u>
13. Provide and install trees	15 EA	\$ <u>600</u>	\$ <u>9,000</u>

14. Provide and install planting plug mix landscaping	8,089 SF	\$ <u>4.00</u>	\$ <u>32,356</u>
15. Provide and install groundcover landscaping	3,326 SF	\$ <u>9.00</u>	\$ <u>29,934</u>
16. Provide and install turf grass	24,064 SF	\$ <u>1.50</u>	\$ <u>36,096</u>
17. Construct asphalt walk complete	7,589 SF	\$ <u>4.00</u>	\$ <u>30,356</u>
18. Bonding and insurance	LS		\$ <u>11,200</u>
TOTAL BASE BID			\$ <u>1,224,638</u> (numbers)

~~ONE MILLION TWO HUNDRED TWENTY FOUR~~ Dollars
 (words) THIRTY TWO THOUSAND NINE HUNDRED & THIRTY EIGHT DOLLARS.

Deductive Alternates

1. Deductive alternate #1 as shown on plans and described in specifications	LS	\$ <u>13,600</u>
2. Deductive alternate #2 as shown on Plans and described in specifications	LS	\$ <u>11,300</u>
3. Deductive alternate #3 as shown on Plans and described in specifications	LS	\$ <u>8,000</u>
Total amount of deductive alternates		\$ <u>32,900</u>

~~THIRTY TWO THOUSAND NINE HUNDRED~~ Dollars
 (words) THIRTY TWO THOUSAND NINE HUNDRED

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.

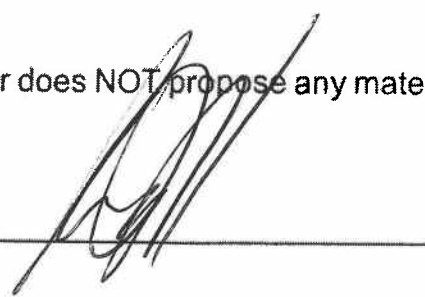
If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered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

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
None		

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 _____



BID FORM

Section 3 - Time Alternate

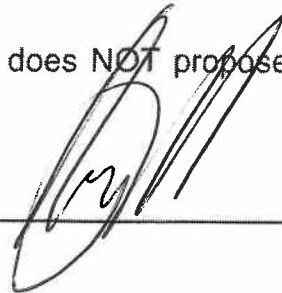
If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-2, it is requested to stipulate below its proposed time for performance of the work. Consideration will be given to time in evaluating bids.

None

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 _____



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.

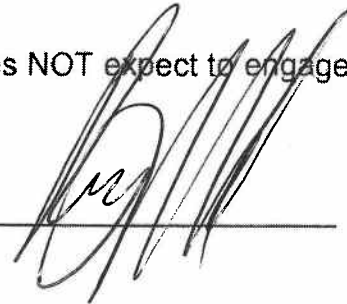
For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified:

<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 _____



BID FORM

Section 5 – References

SPECIALTY

~~GENERAL CONTRACTOR~~ (Name: Wally Hollyday Skateparks)

~~GENERAL CONTRACTOR~~ VEHILL CONSTRUCTION

Include a minimum of three references from projects completed within the past five years for concrete in-ground skatepark projects of similar type, features, size and climate.

1) N. Laurel Skatepark \$217,592 May-June 2011
Project Name Cost Date Constructed

Paul Walsky, Park Planner 410-313-1695
Contact Name Phone Number

2) Mount Shasta Skatepark \$285,000 August-Oct 2010
Project Name Cost Date Constructed

Mike Rodriguez, Recreation & Parks 530-926-2494
Contact Name Phone Number

3) Port Aransas Skatepark \$289,000 Jan-March 2010
Project Name Cost Date Constructed

David Parsons, Planning & Project Manager 361-749-4111
Contact Name Phone Number

ADDENDUM #1
Ann Arbor Skatepark Construction
ITB #4285
City of Ann Arbor
Parks and Recreation Services

Below are clarifications/changes to ITB #4285. The addendum includes answers to questions posed by contractors as well as clarifications made by the consultant. Please include this addendum with your bid on Wednesday, May 15 at 10:30 a.m.

A REVISED PLAN SET AND TECHNICAL SPECIFICATION FOR SHOTCRETE IS
INCLUDED AS PART OF THIS ADDENDUM.

1. Specialty skatepark contractor qualifications only pertain to the contractor or subcontractor performing shotcrete in skatepark. General contractors without skatepark experience may subcontract specialty scope of work to qualified subcontractor. Bids without a qualified specialty skatepark contractor or subcontractor will be rejected. [SECTION 03370, PART 1, 1.2 Quality Assurance, B. Contractors Requirements]. The requirements for the "Skatepark Contractor" will be revised to address specialty skatepark contractor experience.

2. The storm detention structure unit specified is no longer available. Consequently, the detention chambers have been revised and the new structure is included on the plan drawings.

3. Estimate of Permits and Fees – contractor must verify.

Erosion control permit - \$220.00

Permits will be required for installation of 6" drainline, stairs, retaining wall, guardrail and stormwater retention.

Permit fees - \$1234

Plan review - \$494

Erosion control Contractor registration is not included in this estimate.

4. Timing of plant installation is weather dependent, and will be determined by construction progress.

5. Landscape maintenance obligations - A note indicating the contractor's responsibility for plant and tree maintenance was added to the plans.

6. The plans showed grass in the landscaped areas on sheet 3 – note was changed to reflect "ground cover" on landscape plans.

7. Temporary erosion control - A note was added in the plans about maintaining SEC measures into following year.

8. The contractor will be responsible for surveying and layout of project in accordance with construction documents.

BID FORM
Section 1 – Schedule of Prices

Project: Ann Arbor Skatepark Construction
ITB # 4285

Bidder's Name: Krull Construction

Notes:

1. All bidders shall provide a Unit Price and Total Price for all bid items specified.
3. The City, at its sole discretion, may elect to delete any portion of the work delineated below, with no change to the unit prices provided. Work shall be determined based upon the availability of funds.
4. Any item not provided in the following list shall be considered incidental.
5. Contract shall be awarded based on the base bid or any combination of the base bid and alternate bid areas in any manner the City believes to be in its best interest.
6. The undersigned as bidder declares that he has carefully examined the location of the proposed work, that he has examined the Special Provisions and read the accompanying instructions to bidders, and hereby proposed and agrees, if the proposal is accepted, to furnish all materials and do all work required to complete the said work in accordance with the said Standard Specifications, and Plans in the time and manner therein prescribed for the unit price set forth in the following schedule.

<u>Item Description</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Price</u>
1. Construction staging, security fencing, stormwater pollution protection measures	LS		\$ <u>64,900</u>
2. Clear and grub existing site/debris	LS		\$ <u>12,100</u>
3. All grading	LS		\$ <u>97,340</u>
4. Provide and install storm drain lines, inlets, and grates	LS		\$ <u>127,810</u>
5. Construct concrete shotcrete	LS		\$ <u>357,300</u>
6. Construct concrete paving	LS		\$ <u>160,200</u>
7. Construct cast in place concrete ledges, stairs, walls, and monolithic elements	LS		\$ <u>89,600</u>
8. Construct and install guard rails, metal coping, metal edging, rails, pool coping blocks, tile and pavers	LS		\$ <u>69,800</u>
8a. Shotcrete & Pool Copings	LS		\$ <u>35,800</u>
9. Amend existing soil in planting areas to a depth of 18"	11,415 SF 8,089	\$ <u>2.40</u>	\$ <u>19,413.60</u>
10. Provide and install featured boulders	4 EA	\$ <u>900</u>	\$ <u>3,600</u>
11. Provide and install boulders 18-24"	17 CY	\$ <u>700</u>	\$ <u>11,900</u>
12. Provide and install natural river rock 4-6"	7 CY	\$ <u>400</u>	\$ <u>2,800</u>
13. Provide and install trees	15 EA 0	\$ <u>0</u>	\$ <u>0</u>

14. Provide and install planting plug mix landscaping	8,089 SF	\$ <u>4.00</u>	\$ <u>32,356</u>
15. Provide and install groundcover landscaping	3,326 SF 0	\$ <u>0</u>	\$ <u>0</u>
16. Provide and install turf grass	24,064 SF 27,390	\$ <u>.30</u>	\$ <u>8,217</u>
17. Construct asphalt walk complete	7,589 SF	\$ <u>4.00</u>	\$ <u>30,356</u>
18. Bonding and insurance	LS		\$ <u>11,200</u>
TOTAL BASE BID			\$ <u>1,134,692.60</u> (numbers)

One Million One Hundred Thirty Four Thousand Six Hundred Ninety Two and 60 cents **Dollars**
(words)

Deductive Alternates

1. Deductive alternate #1 as shown on plans and described in specifications	LS	\$ <u>13,600</u>
2. Deductive alternate #2 as shown on Plans and described in specifications	LS	\$ <u>11,300</u>
3. Deductive alternate #3 as shown on Plans and described in specifications	LS	\$ <u>8,000</u>
Total amount of deductive alternates		\$ <u>32,900</u>

Thirty Two Thousand Nine Hundred **Dollars**
(words)

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>
6	Replace rebar with structural fibers in the concrete mix	Deduct \$21,500
8	Replace iron fence detail with vinyl coated chainlink fence	Deduct \$12,000
8	Eliminate monument signage per detail S76	Deduct \$6,000
3	Leave spoils on-site and regrade / seed	Deduct \$18,600
3,4,5,6,8,17	Eliminate Amoeba Bowl	Deduct \$46,000
16	Provide Topsoil - CY unit price	Add \$25.00/CY

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 _____

9. City of Ann Arbor will contract with an independent company for soil and concrete testing.

10. Mock up 4' x 4' with 7' radius transition test panel will not be required. 18" x 18" x 6" shotcrete panels will be required for each shotcrete pour for lab testing. Cylinders will be required for all other concrete pours. [SECTION 03370, PART 1, 1.2 Quality Assurance C. Concrete Testing...will be revised as noted]

11. City will be doing inspections for permitted work. Consultant will be doing inspections for quality assurance and design adherence to construction documents.

12. Addendum includes a specification for the "park rules" sign. Consultant is providing a design for park monument signage, however, the final verbiage on the sign may change, and the contractor must have City approve final wording prior to fabrication.

13. The pre-bid signup sheet link has been fixed, and it is available on the City's website.

14. There is no irrigation planned for the project and all of the landscape specifications are on the plans.

15. The pre-bid meeting was recommended but not mandatory.

16. On the bid form, replace item 8 with the following to separate the coping as a line item and use these figures for your base bid:

8. Construct and install guard rails, skatepark rules signage, metal edging, rails and parking blocks LS \$ 69,800

8a. Construct and install metal shotcrete coping and pool coping with tiles LS \$ 35,800

Please include this addendum with your bid.

Contractor Name Krull Construction

Printed


Randy Krull

Signed

Address: 859 S. Wagner

Ann Arbor, MI 48103

Email: jgarland@krullconstruction.net Phone: 734-662-5621

Project Name	Ann Arbor Skatepark				
Working Budget					
Item	Description	Est. Quant.	Unit	Unit Price	Bid Amount
1	Construction Staging, security fencing, stormwater measures	1	LS	\$ 64,900.00	\$64,900.00
2	Clear and Grub	1	LS	\$ 12,100.00	\$12,100.00
3	Grading	1	LS	\$ 97,340.00	\$97,340.00
4	Storm Drains	1	LS	\$ 127,810.00	\$127,810.00
5	Shotcrete	1	LS	\$ 357,300.00	\$357,300.00
6	Concrete Paving	1	LS	\$ 160,200.00	\$160,200.00
7	Cast-In-Place Concrete	1	LS	\$ 89,600.00	\$89,600.00
8	Metals	1	LS	\$ 69,800.00	\$69,800.00
8a	Copings	1	LS	\$ 35,800.00	\$35,800.00
9	Amend Soils	8089	SF	\$ 2.40	\$19,413.60
10	Feature Boulders	4	Ea.	\$ 900.00	\$3,600.00
11	Boulders 18-24"	17	CY	\$ 700.00	\$11,900.00
12	River Rock	7	CY	\$ 400.00	\$2,800.00
13	Trees	15	Ea.	N/A	N/A
14	Plantings Landscape	8089	SF	\$ 4.00	\$32,356.00
15	Groundcover Landscape	3326	SF	N/A	N/A
16	Turf Grass	27390	SF	\$ 0.30	\$8,217.00
17	Asphalt	7589	SF	\$ 4.00	\$30,356.00
18	Bonding & Insurance	1	LS	\$ 11,200.00	\$11,200.00
Total:					\$1,134,692.60
Deductive Alternates:					
1	Deductive Alternate #1	1	LS	\$ (13,600.00)	-\$13,600.00
2	Deductive Alternate #2	1	LS	\$ (11,300.00)	-\$11,300.00
3	Deductive Alternate #3	1	LS	\$ (8,000.00)	-\$8,000.00
Sub-Total:					-\$32,900.00
Owners Options:					
Replace rebar with structural fibers					-\$21,500.00
Replace picket fence with chainlink fence					-\$12,000.00
Eliminate Monument Sign					-\$6,000.00
Spoils left on site					-\$18,600.00
Sub-Total:					-\$58,100.00
Total:					\$1,043,692.60
Additional Items Identified During Meeting:					
Rain Garden drain tile deduct					-\$2,100.00
Krull General Conditions Deduct					-\$10,000.00
Sub-Total:					-\$12,100.00
Total:					\$1,031,592.60

CONTRACT

THIS AGREEMENT is made on the 16th day of July, 2013, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 (“City”) and Krull Construction (“Contractor”) a Michigan Corporation located at 859 South Wagner, Ann Arbor, MI 48103.

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 “Ann Arbor Skatepark Construction” 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:

Human Rights Division Contract	General Conditions
Living Wage Declaration of	Standard Specifications
Compliance Forms	Detailed Specifications
(if applicable)	Plans
Bid Forms	Addenda
Contract and Exhibits	
Bonds	

ARTICLE II - Definitions

Administering Service Area/Unit means Public Services Area.

Supervising Professional or Owner means persons acting under the authorization of the Administrator/Manager of the Administering Service Area/Unit.

Engineer or Owner’s Representative means Consulting Professional acting under the authorization of the Supervising Professional/Owner.

Project means, Ann Arbor Skatepark Construction, Bid No. ITB-4285

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 fifteen (15) consecutive weeks. Shorter completion times for certain portions of the work are specified below. Liquidated damages shall also apply to these intermediate milestones.

Intermediate Milestones

- (i) Shop Drawings and field measurements shall be prepared and submitted within two (2) consecutive weeks following the Notice to Proceed.
 - (ii) Fabrication and delivery shall be completed within six (6) consecutive weeks following approved shop drawings.
 - (iii) All work must be performed by November 30, 2013.
- (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 \$100.00 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.

Liquidated damages under this section are in addition to any liquidated damages due under Section 5 of the General Conditions.

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 Forms 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 without the written consent of 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.

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.

ARTICLE X - Entire Agreement

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations or agreements whether written or oral. Neither party has relied on any prior representations in entering into 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 _____
John Hieftje, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
Steven D. Powers, City Administrator

By _____
Sumedh Bahl, Community Services
Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

PERFORMANCE BOND

(1) _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for

\$ _____, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written Contract with the City dated _____, 2013, 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 _____, 2013.

(Name of Surety Company)

By _____
(Signature)

Its _____
(Title of Office)

(Name of Principal)

By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Stephen K. Postema, City Attorney

Name and address of agent:

LABOR AND MATERIAL BOND

- (1) _____
of _____ (referred to as
"Principal"), and _____, a corporation duly authorized to
do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor,
Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan
Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of
\$ _____, for the payment of which Principal and Surety bind themselves, their heirs,
executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City, dated _____, 2013, 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 _____, 2013.

(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

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."

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.

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 1:319 of Chapter 14 of Title I of the Code of the City of Ann Arbor, the Contractor agrees to conform to Chapter 23 of Title I of the Code of the City of Ann Arbor, as amended, which in part states:

1:814. Applicability.

- (1) This Chapter shall apply to any person that is a contractor/bidder or grantee as defined in Section 1:813 that employs or contracts with five (5) or more individuals; provided, however, that this Chapter shall not apply to a non-profit contractor/bidder or non-profit grantee unless it employs or contracts with ten (10) or more individuals.
- (2) This Chapter shall apply to any grant, contract, or subcontract or other form of financial assistance awarded to or entered into with a contractor/bidder or grantee after the effective date of this Chapter and to the extension or renewal after the effective date of this Chapter of any grant, contract, or subcontract or other form of financial assistance with a contractor/bidder or grantee.

1:815. Living Wages Required.

- (1) Every contractor/bidder or grantee, as defined in Section 1:813, shall pay its covered employees a living wage as established in this Section.
 - (a) For a covered employer that provides employee health care to its employees, the living wage shall be \$12.57 an hour, or the adjusted amount hereafter established under Section 1:815(3).
 - (b) For a covered employer that does not provide health care to its employees, the living wage shall be \$13.57 an hour, or the adjusted amount hereafter established under Section 1:815(3).

- (2) In order to qualify to pay the living wage rate for covered employers providing employee health care under subsection 1:815(1)(a), a covered employer shall furnish proof of said health care coverage and payment therefor to the City Administrator or his/her designee.
- (3) The amount of the living wage established in this Section shall be adjusted upward no later than April 30, 2013, and every year thereafter by a percentage equal to the percentage increase, if any, in the federal poverty guidelines as published by the United States Department of Health and Human Services for the years 2013 and 2014. Subsequent annual adjustments shall be based upon the percentage increase, if any, in the United States Department of Health and Human Services poverty guidelines when comparing the prior calendar year's poverty guidelines to the present calendar year's guidelines. The applicable percentage amount will be converted to an amount in cents by multiplying the existing wage under Section 1.815(1)(b) by said percentage, rounding upward to the next cent, and adding this amount of cents to the existing living wage levels established under Sections 1:815(1)(a) and 1:815(1)(b). Prior to April 1 of each calendar year, the City will notify any covered employer of this adjustment by posting a written notice in a prominent place in City Hall, and, in the case of a covered employer that has provided an address of record to the City, by a written letter to each such covered employer.

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 Section 209 of the Elliot-Larsen Civil Rights Act (MCL 37.2209). The Contractor further agrees to comply with the nondiscrimination provisions of Chapter 112 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. The Contractor further agrees to comply with the provisions of Section 9:161 of Chapter 112 of the Ann Arbor City Code and in particular the following excerpts:

9:161 NONDISCRIMINATION BY CITY CONTRACTORS

- (1) All Contractors proposing to do business with the City of Ann Arbor shall satisfy the nondiscrimination administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All contractors shall receive approval from the Director prior to entering into a contract with the City, unless specifically exempted by administrative policy. All City contractors shall take affirmative action to insure 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 race, national origin or sex.
- (2) Each prospective contractor shall submit to the City data showing current total employment by occupational category, sex and minority group. If, after verifying this data, the Director concludes that it indicates total minority and female employment commensurate with their availability within the contractor's labor recruitment area, i.e., the area from which the Contractor can reasonably be expected to recruit, said Contractor shall be accepted by the Director as having fulfilled affirmative action requirements for a period of one year at which time the Director shall conduct another review. Other Contractors shall develop an

affirmative action program in conjunction with the Director. Said program shall include specific goals and timetables for the hiring and promotion of minorities and females. Said goals shall reflect the availability of minorities and females within the contractor's labor recruitment area. In the case of Construction Contractors, the Director shall use for employment verification the labor recruitment area of the Ann Arbor-Ypsilanti standard metropolitan statistical area. Construction Contractors determined to be in compliance shall be accepted by the Director as having fulfilled affirmative action requirements for a period of six (6) months at which time the Director shall conduct another review.

- (3) In hiring for construction projects, Contractors shall make good faith efforts to employ local persons, so as to enhance the local economy.
- (4) All Contracts shall include provisions through which the Contractor agrees, in addition to any other applicable Federal or State labor laws:
 - (a) To set goals, in conference with the Human Resources Director, for each job category or division of the work force used in the completion of the City work;
 - (b) To provide periodic reports concerning the progress the contractor has made in meeting the affirmative action goals it has agreed to;
 - (c) To permit the Director access to all books, records and accounts pertaining to its employment practices for the purpose of determining compliance with the affirmative action requirements.
- (5) The Director shall monitor the compliance of each contractor with the nondiscrimination provisions of each Contract. The Director shall develop procedures and regulations consistent with the administrative policy adopted by the City Administrator for notice and enforcement of non-compliance. Such procedures and regulations shall include a provision for the posting of contractors not in compliance.
- (6) All City Contracts shall provide further that breach of the obligation not to discriminate shall be a material breach of the contract for which the City shall be entitled, at its option, to do any or all of the following:
 - (a) To cancel, terminate, or suspend the contract in whole or part and/or refuse to make any required periodic payments under the contract;
 - (b) Declare the contractor ineligible for the award of any future contracts with the City for a specified length of time;
 - (c) To recover liquidated damages of a specified sum, said sum to be that percentage of the labor expenditure for the time period involved which would have accrued to minority group members had the affirmative action not been breached;

(d) Impose for each day of non-compliance, liquidated damages of a specified sum, based upon the following schedule:

<u>Contract Amount</u>	<u>Assessed Damages Per Day of Non-Compliance</u>
\$ 10,000 - 24,999	\$ 25.00
25,000 - 99,999	50.00
100,000 - 199,999	100.00
200,000 - 499,999	150.00
500,000 - 1,499,999	200.00
1,500,000 - 2,999,999	250.00
3,000,000 - 4,999,999	300.00
5,000,000 - and above	500.00

(e) In addition the contractor shall be liable for any costs or expenses incurred by the City of Ann Arbor in obtaining from other sources the work and services to be rendered or performed or the goods or properties to be furnished or delivered to the City under this contract.

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

A. 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 acts were made by the Contractor or by any subcontractor or anyone employed by them directly or indirectly. The following insurance policies are required:

1. 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

2. Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 07 98. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements including, but not limited to: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further, 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

3. Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 07 97. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. 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.
 4. 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.
- B. Insurance required under Section A.2 and A.3 of this Contract 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.
- C. 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 documentation demonstrating it has obtained the above mentioned policies. 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. An original certificate of insurance may be provided as an initial indication of the required insurance, provided that no later than 21 calendar days after commencement of any work the Contractor supplies a copy of the endorsements required on the policies. 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 to the Administering Service Area/Unit at least ten days prior to the expiration date.
- D. 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.

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 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.

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 Ann Arbor Skatepark Construction, 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 Advertisement. 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.

A copy of the Public Services Department Standard Specifications may be purchased from the Engineering Division, (Fourth Floor, City Hall, Ann Arbor, Michigan), for \$35.00 per copy. In addition, a copy of these Standard Specifications is available for public viewing at the Engineering Division office, for review Monday through Friday between the hours of 8:30 a.m. and 4:00 p.m. Copies of the Standard Specifications can also be downloaded from the web link:

http://www.a2gov.org/government/publicservices/project_management/privatedev/pages/standardspecificationsbook.aspx.

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SECTION 01710

FINAL CLEANING

PART 1 – GENERAL

1.01 SUMMARY

- A. This section includes administrative and procedural requirements for final cleaning of the Work prior to Substantial Completion, including but not limited to:
 - 1. Cleaning procedures
 - 2. Inspection
- B. Do not use materials that may damage finished surfaces.
- C. Do not use cleaning materials hazardous to health or property.
- D. Use only cleaning materials and methods recommended by manufacturer of items or material to be cleaned.

PART 2 – EXECUTION

2.01 FINAL CLEANING

- A. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a typical commercial building / site cleaning and maintenance program. Comply with manufacturer's instructions. Final cleaning includes but is not limited to the following procedures:
 - 1. Remove all accumulated dust and dirt.
 - 2. Remove grease, mastic, adhesives, glazing compounds, dust, dirt, stains, fingerprints, non-permanent labels, and other foreign materials from interior and exterior surfaces exposed to view.
 - a. Clean hard surface finishes to dirt-free condition, free of dust, stains, films and similar noticeable distracting substances.
 - b. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces.
 - c. Restore reflective surfaces to original reflective conditions.
 - d. Replace chipped or broken glass and other damaged transparent materials.
 - e. Remove excess lubrication and other substances from mechanical and electrical equipment. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 - 3. Remove debris and surface dust from limited-access spaces including trenches, equipment vaults, manholes, catch basins, and similar spaces.
 - a. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition. Remove stains, petrol-chemical

spills and other foreign deposits. Rake grounds, which are neither planted nor paved to a smooth, even-textured surface.

- b. Leave concrete floors broom-clean.
- B. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project Area of rodents, insects, and other pests.
- C. Removal of Temporary Protection: Except as otherwise indicated or requested by the City of Ann Arbor Construction Administrator, remove temporary protection devices and facilities installed to protect previously completed work during the remainder of the construction period.
- D. Extra Materials: Where excess materials of value remain after completion of associated work, these materials become the property of the Client. If declined by the Client, the Contractor shall dispose of these materials as directed by the Client.

2.02 INSPECTION

- A. General: Carefully coordinate with all other trades to ensure proper and adequate interface of the work of other trades with the work of this Section.
- B. Delivery: Schedule timely delivery of all metal fabrications, so as not to delay the concrete pouring or Shotcrete work.

2.03 INSTALLATION

- A. Prior to requesting inspection for certification of Substantial Completion, inspect exposed surfaces. Verify that entire Work Area is clean.
- B. Prior to certifying Substantial Completion, the City of Ann Arbor Construction Administrator will make a detailed inspection of buildings and site, and will prepare a checklist of cleaning and debris removal remaining to be completed before certification of Substantial Completion. Complete items on the City of Ann Arbor Construction Administrator's checklist, so that entire Project is clean and ready for occupancy by staff and the public.

END OF SECTION 01710

SECTION 02050
SITE DEMOLITION

PART 3 – GENERAL

3.01 DESCRIPTION

- A. Work Included: Perform all site demolition work, complete, as shown and as specified on the plans.
- B. Related Work:
 - 1. Section 02200: Earthwork
 - 2. Section 02230: Sub-grade Preparation

3.02 REFERENCES

- A. ASTM: American Society for Testing and Materials
- B. DIS: Division of Industrial Safety
- C. Geotechnical Report
- D. Topographic Survey

3.03 QUALITY ASSURANCE

- A. Regulatory Requirements: Demolish existing site improvements as indicated in the construction drawings, in an orderly and careful manner. Comply with all local codes and ordinances.
- B. Equipment: Use equipment specifically designed for the demolition of each type of material.
- C. Labor: Employ workers skilled in the use of the equipment being utilized for demolition.

3.04 DELIVERY, STORAGE, AND DISPOSAL

- A. Delivery and Storage: Do not deliver to the job site nor store thereon demolition equipment and materials prior to receiving written notice to proceed. Confine storage to areas approved by the City of Ann Arbor. Contractor to apply for a permit to store materials on site during construction. Storage site to be fenced and screened.
- B. Disposal: Legally dispose of off site products of the demolition during or at end of each day's work. The Contractor shall pay all disposal costs associated with the Project.

3.05 PROJECT/SITE CONDITIONS

- A. Existing Conditions: Inspect site prior to commencing work. Determine scope of applicable site conditions.
- B. Access and Testing: Make test excavations and borings required to determine existing conditions, subject to the City of Ann Arbor's convenience. Refer to Geotechnical Report as needed.
- C. Acceptance: Commencing work constitutes the Contractor's acceptance of site conditions, both surface and subsurface. No extra payment shall accrue to the Contractor by virtue of unknown conditions or difficulties of performing this demolition work.

3.06 PROTECTION

- A. Protection of Existing Plants to Remain
 1. Operations: Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
 2. Barriers: Provide barricades, fences or other barriers as necessary at the drip line to protect existing plants to remain from damage during construction.
 3. Notification: Notify Client or Construction Administrator when the Contractor feels construction activities may damage existing plants noted on the plans to remain.
 4. Replacement of Damaged Plants:
 - a. Replace existing plants to remain that are damaged during construction with accepted plants of the same species and size as those damaged at no cost to the Client.
 - b. City of Ann Arbor Construction Administrator will determine the extent of damage and replacement value of the damaged plants.
- B. Protection of Existing Site Improvements
 1. References: Verify and maintain benchmarks, monuments and other reference points. Replace if disturbed or destroyed.
 2. Protection: Protect existing improvements noted to remain within designated limit(s) of work. Supply shoring, bracing, reinforcing and barricades as required. Refer to the construction drawings for limits of work.
 3. Utilities: Keep in operation existing utility circuits and piping noted on the drawings to remain, including the sprinkler irrigation except at the direction of The City of Ann Arbor Construction Administrator. Provide 48-hour notice of interruption of service. Notify the Construction Administrator should utilities not shown in the construction drawings, be found during the demolition process.
 4. Repair: If damage to site improvements to remain occurs during the course of the work, these existing site improvements to be restored to the satisfaction of the City of Ann Arbor Construction Administrator at no additional cost.

PART 4 – EXECUTION

4.01 PREPARATION

- A. Verification: Verify with the Construction Administrator items to be removed prior to commencement of work.
- B. Compliance: Proceed with demolition in an orderly and careful manner, in compliance with City of Ann Arbor codes and ordinances.
- C. Disposal: Legally dispose of demolished materials off site unless otherwise directed by the City of Ann Arbor.

4.02 CLEARING AND GRUBBING

- A. Clearing and grubbing shall consist of stripping grasses; vegetation growth and other biodegradable substances to a depth of 6" [15.24cm]; removing trash; removing existing structures, foundations, slabs and miscellaneous concrete; removing abandoned pipe lines; and removing trees and shrubbery, if present. Any building debris deposits found to be unsuitable for foundation sub-grade material should be removed from the site.
- B. Stripping: The existing top soils should be removed from the area of the skatepark prior to construction and stored for re-use. A stripping depth of 6-8 inches would be appropriate. The actual stripping depth should be determined in the field by the soil engineer at the time of construction.

4.03 DEMOLITION

- A. Utilities:
 - 1. Capping: Disconnecting and capping of utilities to be performed by the individual utility company concerned.
- B. Paving and Walls:
 - 1. Sawcutting: Accurately and cleanly sawcut existing concrete paving as shown in the construction drawings. Confine cuts to areas shown. Avoid damage to adjacent improvements.
 - 2. Finishing: Rough grade excavated areas as necessary to achieve the final line and grade as called for in other Sections of this work. Compact to the density of the surrounding area. The final surface shall be smooth, even and tight, free from loose or soft areas.
- C. Subgrade: Fill depressions made by demolition and restore excavated areas to a smooth and even grade. Compact to the density of the surrounding soil per Geotechnical Report recommendation.

4.04 DE-WATERING

- A. General: Provide and operate equipment and install ditching and pumping necessary to keep the Project Site free from water.
- B. Storm Water: Pump off storm runoff or other water until such time as new work in other Sections shall effectively remove such water.

- C. Protection: Take measures required to dispose of surface and subsurface water in compliance with City of Ann Arbor requirements.
- D. Debris: Prevent transport of soil, aggregate or debris off site where practical. Site to be in compliance with the Storm Water runoff Protection Regulations. Contractor to maintain all runoff protection for the duration of the contract.

END OF SECTION 02050

SECTION 02200

AP-8

EARTHWORK

PART 5 – GENERAL

5.01 SCOPE

- A. Furnish labor, materials, and equipment for grading and construction work shown in the construction drawings.

5.02 RELATED SECTIONS

- A. Section 02050: Site Demolition
- B. Section 02230: Sub-grade Preparation & Base Material

5.03 SUBMITTALS

- A. Samples: Submit a one cubic foot sample of proposed import soils (if required) per Geotechnical Report for the City of Ann Arbor Construction Manager's review and approval; identify location and source of import soil. The City of Ann Arbor Soil Engineer and/or Testing Company shall approve the suitability of any import fill materials prior to placing.
- B. Test Reports:
 - 1. Refer to Geotechnical Report

5.04 REFERENCES AND STANDARDS

- A. Work shall comply with the rules and regulations of local, state and federal agencies having jurisdiction. Nothing contained herein shall be construed as permitting work that is contrary to such rules, regulations and codes.
- B. ASTM Standards.

5.05 SOILS REPORT

- A. Refer to Geotechnical Report.

5.06 TESTING

- A. Testing and inspection during earthwork operations, other than agricultural suitability and chemical analysis of proposed soils as required, will be scheduled and paid for by the Contractor. All tests reports performed on the Project soil will be given to the City of Ann Arbor and Construction Administrator for review.
- B. Where reference is made to relative compaction, it shall be the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, determined by the ASTM D1557 laboratory test procedure. Optimum moisture is the water content that corresponds to the maximum dry density.

5.07 PROJECT CONDITIONS

- A. Existing Conditions: The existing topographic conditions are shown in construction drawings for reference only. Upon beginning the earthwork, the Contractor represents that he has inspected the site and satisfied himself as to actual grades and levels and the true conditions under which the work is to be performed. Promptly notify the City of Ann Arbor Construction Administrator of unexpected subsurface conditions. The Contractor is required to submit a "Site Acceptance" letter before earthwork operations begin.
- B. Protection:
 - 1. Contractor to protect excavations by shoring, bracing, sheeting, underpinning, or other methods, as required to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at work adjacent to public streets and walks.
 - 2. Contractor to cover holes and trenches when work is not in progress. Fence or barricade changes of plane more than 45 degrees horizontally and more than 3 feet vertically.
 - 3. Contractor to maintain bench marks, monuments, and other reference points. If disturbed or destroyed, replace as directed.
 - 4. Contractor to protect existing berms and slopes from disturbance. If slopes are disturbed, return to existing conditions at no additional cost to the Client.
 - 5. Contractor to underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.
 - 6. Contractor to protect existing natural areas and landscape improvements from damage during construction.
 - 7. Contractor to promptly repair damage to adjacent facilities caused by any earthwork operations. Cost of repair to be at the Contractor's expense.

PART 6 – MATERIALS

6.01 FILL FOR USE UNDER PAVING AND STRUCTURES

- A. Per Geotechnical Investigation. Any required imported fill materials used in backfilling should consist of non-expansive soils with a Plasticity Index of less than 15 percent. A soil engineer is to approve the suitability of any imported fill materials prior to placing fill.

6.02 FILL FOR MISCELLANEOUS LANDSCAPE WORK

- A. General Landscape Construction
 - 1. Mound Construction: Fill material similar to existing on-site soil with all rocks, etc., over 4" in diameter removed prior to placement. No rocks larger than 2" in diameter are allowed in top 6" of mound.
 - 2. Miscellaneous Landscape Filling: Fill material similar to existing on-site soil with all rocks, etc. over 2" in diameter removed prior to placement.
 - 3. Remove and dispose of rocks, etc. removed during soil processing offsite.
 - 4. Imported fill material shall be inspected, tested, and approved by the Construction Administrator prior to use in work. Copy of tests will be given to the Construction Administrator.

6.03 PLANTING SOIL FOR PLANT BACKFILL

- A. Native soil tilled and free of noxious weeds and chemicals. Soil must be approved as growing medium from soils lab report with any supplementary additives as directed by soils lab report. Copy of soil lab report will be given to the Construction Administrator.

PART 7 – EXECUTION

7.01 PREPARATION

- A. Establish extent of grading and excavation by area and elevations as designated on the plans. Designate and identify datum elevation and Project engineering reference points. Contractor to be responsible for setting and maintaining required lines, levels and elevations.
- B. Do not cover or enclose work of this Section before obtaining the required inspections, tests, approvals, and location survey.

7.02 EXISTING UTILITIES

- A. Before starting grading and excavation, the contractor to establish the location and extent of underground utilities in the work area. Exercise care to protect existing utilities to remain during earthwork operations. Perform excavation work near utilities by hand and provide necessary shoring, sheeting, and supports during the progress of the project.
- B. Maintain, protect, relocate, or extend, as required, existing utility lines to remain which pass through the work area. The Contractor to be responsible for all costs for this work, except as covered by the applicable utility companies.
- C. Protect active utility services uncovered by excavation. Notify respective utility companies of damage caused to active utilities immediately.
- D. Remove abandoned irrigation and utility service lines from areas of excavation. Cap, plug, or seal abandoned lines and identify termination points at grade level with markers.
- E. Accurately locate and record abandoned and active utility lines rerouted or extended on the as-built construction documents.

7.03 GENERAL SITE GRADING

- A. Perform grading to within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated on the plans. Provide uniform levels and slopes between new elevations and existing grades. Contractor to ensure that the graded area will drain and not pond water.
- B. Obtain approval of scarified subgrade surfaces by the Client prior to filling operations. Scarify, dry and compact soft and wet areas; remove and replace unsuitable subgrade materials with an approved fill material. Take corrective measures before placing fill materials.

- C. Thoroughly scarify existing soil surface to a depth of 10" and verify scarification with the Client prior to placing fill material in mounded areas. Recompact soil to 95 percent standard proctor prior to placing any fill materials.
- D. Spread approved fill material uniformly in layers not greater than 12" of loose thickness over entire fill zones of planting areas.
 - 1. Lift thickness requirements may be modified by the Construction Administrator to suit equipment and materials or other conditions as required to assure the required compaction.
 - 2. Place and compact each layer of fill to 90% standard proctor, before placing additional fill material. Repeat filling until proposed grade, profile or contour is attained.
 - 3. Suspend fill operations when satisfactory results cannot be obtained because of environmental or other unsatisfactory site conditions. Do not use over-saturated fill materials. Do not place fill material on oversaturated subgrade surface.
 - 4. Grade surfaces to assure positive drainage and to prevent ponding and pockets of surface drainage. Install drainage swales as indicated in construction drawings.
 - 5. Protect finished graded areas from traffic and erosion. Keep free of trash and debris. Repair and reestablish grades in settled, eroded, and damaged areas.
 - 6. Contractor is to provide, install and maintain silt fencing around the project and to also protect storm drain inlets from silt runoff.
- E. If, in the opinion of the Construction Administrator, the completed site grading does not reflect the construction documents, an independent surveyor may be hired, at the expense of the Contractor to verify the grades.

7.04 BACKFILLING / FILLING FOR PAVING & WALLS

- A. Before filling, remove all debris, large rocks, formwork and loose material.
- B. Proof-roll areas to receive fill with rubber tired roller of sufficient weight. Weak areas or areas where excessive pumping is noted shall be removed and if required by the Client, replaced with select fill.
- C. Prior to placing fill, scarify surface to a depth of 6 inches. Moisture content of loosened material shall be such that first layer of fill will readily bond to surface.
- D. Top 6 inches of fill shall be free from rocks larger than 3 inches in diameter.
- E. Place in maximum 8 inch lifts and compact per ASTM D1557 at optimum moisture content (-1% to +3%). This lift and compaction requirements does not apply to planting areas.
- F. Moisten fill to allow drying to correct moisture content before compaction. Do not place fill on subgrade that is over-saturated.
- G. Allowing for a total thickness of finish paving and base material, fill under paving to bring subgrade to proper elevations.

- H. Soft areas that develop under construction operations shall be scarified, aerated or moistened. Compact to full depth required to obtain specified density for each layer.

7.05 EXCAVATING

- A. It is the Contractor's responsibility to investigate the likelihood of caliche or hard rock excavation. The City of Ann Arbor will not provide any additional compensation to the Contractor for hard rock or caliche excavation.

7.06 FINISH GRADING

- A. Grade uniformly with rounded surfaces at tops and bottoms of abrupt changes in plane. Hand grade steep slopes, areas that are inaccessible for machine work and areas around existing plants.
- B. Slope graded surfaces to drain water away from structures, walls, etc.; minimum slope is 1/4 inch in 12 inches.
- C. Grade areas to elevations and slopes indicated on plans without depressions causing pocketing of surface water or humps, producing localized runoff and gullying. Ponding of water on site is not allowed. Finish surfaces to be not more than 0.10 foot above or below established grade elevations unless approved in writing by the City of Ann Arbor Construction Administrator.

7.07 DRAINAGE

- A. Provide adequate drainage for the working area at all times.

7.08 DISPOSAL OF WASTE MATERIALS

- A. Legally dispose excess excavated material, including rock from site.

7.09 CLEANUP

- A. Upon completion of earthwork operation, clean areas within contract limits and remove all tools and equipment.
- B. Provide a clear site, free of debris and suitable for site work operations.
- C. Remove and dispose of properly off site all rocks and other debris from grading operations.

END OF SECTION 02200

SECTION 02230
SUBGRADE PREPARATION

PART 8 – GENERAL

8.01 DESCRIPTION

- A. Work Included: Provide labor, material and equipment for the subgrade preparation and the base material installation.
- B. Related Work:
 - 1. Section 02200: Earthwork
 - 2. Section 02050: Site Demolition
 - 3. Section 03300: Cast-In-Place Concrete

8.02 REFERENCES AND STANDARDS

- A. ASTM: American Society for Testing and Materials
- B. DIS: Division of Industrial Safety
- C. Geotechnical Report
- D. Topographic Survey
- E. All work to be performed in strict accordance with City of Ann Arbor and State of Michigan Regulations.

PART 9 – MATERIALS

9.01 EXISTING SOIL

- A. Contractor is to ensure that the existing soil is free from vegetative matter or other deleterious substances.

PART 10 – EXECUTION

10.01 SUBGRADE PREPARATION

- A. The Contractor will not receive any additional compensation for hard rock or caliche excavation. Contractor to refer to Geotechnical Report for test boring information and soil conditions.
- B. Subgrade (the upper one foot of the soil that will be supporting structures) is that area on which pavement, surfacing, base, sub-base, or a layer of other material, which may be specified, is to be placed.

- C. Plow or scarify subgrade to a depth of 6 inches below the final subgrade elevation; and by harrowing, dry rolling and breaking clods, the earth shall be brought to uniform condition. Remove boulders, hardened material, roots of 1 inch or larger and/or rock encountered. The earth shall be uniform for the full depth and width of the subgrade.
- D. Water loose earth to a uniform depth of 4 inches.
- E. Harrow the earth to mix the wet earth with the dry beneath, until the whole mass of loose material is at the proper state of moisture for compaction.
- F. The finished subgrade, immediately prior to placing subsequent material thereon, shall be compacted to 95% Standard Proctor and in accordance with the recommendations of the Geotechnical Report.
- G. The finished surface of the subgrade, at any point, shall not vary more than 0.05' [1.52cm] above or 0.20' [6.10cm] below the elevation indicated in the construction drawings unless approved in writing by the City's Construction Administrator.

10.02 BASE

- A. Base shall be readily compacted to 95% Standard Proctor and spread with equipment that will provide a uniform layer conforming to the Design Drawings.

10.03 CLEANUP

- A. Upon completion of the subgrade preparation and base, remove surplus construction materials, earth and debris so that the job site is left in a neat and orderly condition.

END OF SECTION 02230

SECTION 02710
STORM DRAINAGE

PART 11 – GENERAL

11.01 DESCRIPTION

- A. Work Included: Provide storm drainage system consisting of drain lines, inlets, trenching, bedding, back-fill, and out-fall connection for entire skate park as shown on the construction drawings.
- B. Related Work:
 - 1. Section 03300: Cast-In-Place Concrete

11.02 REFERENCES AND STANDARDS

- A. ASTM: American Society for Testing and Materials
- B. DIS: Division of Industrial Safety
- C. Geotechnical Report
- D. Topographic Survey
- E. Perform work in accordance with applicable laws, codes, and regulations required by the City of Ann Arbor, Michigan.
- F. PROTECTIONS
- G. Protect all existing tree roots, turf, shrubs, paving, and utilities from damage due to drainage excavations. Reroute piping if necessary to avoid excessive damage to existing conditions as directed by the City of Ann Arbor Construction Administrator, to avoid damage. Provide protective barrier for all open trenches per City of Ann Arbor and State requirements.

11.03 COORDINATION

- A. Coordinate all work affected by drainage operations

PART 12 – PRODUCTS

12.01 MATERIALS

- A. PVC Drain Pipe: Manufacture in accordance with standards noted herein.
 - 1. Marking and Identification: Continuously and permanently marked with manufacturer's name, pipe size, type of pipe and material, SDR number, ASTM standard number, and the NSF (National Sanitation Foundation) seal.
 - 2. PVC pipe fittings shall be of the same material as the PVC pipe specified and shall be compatible with PVC pipe furnished.

3. All drainpipes shall be SDR-35.
- B. Tracer Wire
1. Wire – 12 gauge solid copper electrical wire with solid blue jacket. Taped to the top of all PVC drainpipes.
 2. Access Box – Coil an additional 18" [45.72cm] of wire and place in a small round valve box at the end of the tracer wire run.
- C. Drain Inlets
1. Floor Drain – Zurn type Z415B, or similar, body assembly with "Type B" strainer. Strainer diameter shall be 8" [20.32cm]. Body assembly shall accommodate a 6" [15.24cm] SDR-35 drain line connection.
 2. Materials and Finish – Body shall be Dura-Coated cast iron with bottom outlet, combination invertible membrane clamp and adjustable collar. Strainer shall be stainless steel.
- D. Trench Drain
1. Trench Drain – Zurn type Z886, or similar, 6 inches wide modular high-density polyethylene (HDPE) channel sections with interlocking ends, radiused bottom and a 0.75% built-in slope. Channels shall have clips, molded into the sides of the channel to accommodate vertical rebar for positioning and anchoring purposes.
 2. Grate – Zurn SWG, or similar, ADA compliant slotted stainless steel grate with mechanical lockdown devices.
- E. Clean Out
1. 6" [15.24cm] Sch. 40 PVC drain pipe with 6" x 6" wye at drain line depth and 6" PVC plug.
 2. Access Box – Standard round cast iron box with storm sewer marked on the lid.

PART 13 – EXECUTION

13.01 EXCAVATION

- A. Excavate ditch no greater in width or depth than is necessary to permit construction

13.02 BEDDING

- A. Provide a firm foundation of uniform density throughout the entire length of the pipe. The exterior of the pipe for not less than ½ of its circumference shall be bedded in an earth foundation of uniform density accurately shaped to fit the outside of the pipe. The material used for bedding shall be select material from onsite excavation. When rock is encountered at grade, the rock shall be removed to a depth of six inches below grade and tamped, clean fill, rock free earth from the excavation shall be used to bring the elevation up to grade. All backfill material shall be a coarse sand or gravel and shall conform to the requirements of ASTM 2321 Class I or Class II.

13.03 LAYING

- A. Do not place pipe in a wet trench. Keep trenches free from water.
- B. No pipe shall be laid until it has been inspected and approved by the City of Ann Arbor Inspector. Lay and joint pipes in the dry. Lay pipe up-grade beginning at the lower end of the line.
- C. Coupling: Use approved solvent weld joint or pressure coupling. Clean pipe and fittings thoroughly of dirt, dust, and moisture. Apply a light uniform coat of solvent to pipe (or compression fitting if applicable) fitting and immediately make the connection.

13.04 BACKFILL

- A. After the pipe has been installed and the joints completely set, material from the onsite excavation at a moisture content with which the required density can be obtained, shall be placed equally along both sides of the pipe in layers not exceeding six inches loose depth. Compact each layer thoroughly by hand or pneumatic tampers to finish grade.

13.05 CONNECTION TO EXISTING DRAINAGE SYSTEM

- A. Daylight the storm drain line into a swale (see design on plans).

13.06 CLEANUP

- A. Clean site daily of trash and debris resulting from construction operations.
- B. Upon completion of the work, remove spoil piles, surplus material, and equipment from the site. Restore ground surface to original condition.

END OF SECTION 02710

SECTION 03110
CONCRETE FORMWORK

PART 14 – GENERAL

14.01 DESCRIPTION

- A. Provide all formwork and accessories for construction of cast-in-place concrete work as per construction drawings.

14.02 RELATED WORK

- A. Section 03210: Concrete Reinforcement
- B. Section 03310: Cast-in-Place Concrete
- C. Section 03370: Shotcrete

14.03 QUALITY ASSURANCE

- A. Design Criteria: Conform to ACI 347, Chapter I.
- B. Allowable Tolerances: Conform to ACI 347, Section 3.3.1.

14.04 STORAGE OF MATERIALS

- A. Store formwork materials on pallets and under a protective cover.

14.05 COORDINATION

- A. Notify responsible trades of schedules of concrete pours to allow time for installation and coordination.

PART 15 – PRODUCTS

15.01 MATERIALS

- A. Forms:
 - 1. Flatwork and Bond Beam: 1" Exterior Masonite Siding for all Tangents. 7/16" Exterior Masonite Siding for all Radii. Create true arc to tangent connections as per the Horizontal Control Plans. No flat spots or depressions will be accepted.
 - 2. Vertical and Custom Work: Exterior grade Standard Douglas Fir (or equal plywood), minimum three ply, one smooth side sufficiently thick to sustain loads, or steel forms.
- B. Form Oil: Non staining, paraffin-base oil having a specific gravity of between 0.8 and 0.9.

- C. Form Ties: Bolts, rods, or patented devices having tensile strength of 3000 lbs., adjustable length, free of lugs which would leave a hole larger than 5/8" diameter and having a full one-inch depth of break-back.

PART 16 – EXECUTION

16.01 CONSTRUCTION AND ERECTION

- A. Construct forms in accordance with ACI 347-68.
- B. Build forms to shapes, lines and dimensions of detailed members of concrete construction. Set to line and grade, brace and secure to withstand placing of concrete and maintain their shape and position.
- C. Construct forms with care to produce off-form concrete surfaces without unsightly or objectionable form marks.
- D. Thoroughly clean contact surfaces of form board material and remove nails before reuse. Do not reuse damaged or worn forms. Coat contact surfaces of forms with non-staining form of release oil prior to installation.
- E. Immediately before placing concrete, clean forms of chips, sawdust, and debris. Immediately after removal of forms, remove form ties, wires, and defects and patch. Contractor to ensure that all anchor bolts, hangers, anchor slots and inserts are accurately set using templates. All templates to be checked for accuracy prior to setting.

16.02 INSERTS AND ACCESSORIES

- A. Make provisions for required installation of accessories, bolts, hangers, sleeves, anchor slots and inserts cast in concrete. Obtain suitable templates or instructions for installation of items. Place expansion and cold joints where detailed and required.

16.03 REMOVAL OF FORMS AND SHORING

- A. Remove forms and shores in accordance with the requirements of ACI 347.

16.04 CLEANUP

- A. Remove all debris and trash.

END OF SECTION 03110

SECTION 03210
CONCRETE REINFORCEMENT

PART 17 – GENERAL

17.01 DESCRIPTION

- A. Provide steel reinforcement for cast-in-place concrete.

17.02 RELATED WORK

- A. Section 03110: Concrete Formwork
- B. Section 03310: Cast-in-Place Concrete
- C. Section 03370: Shotcrete

17.03 DELIVERY AND STORAGE

- A. Stack reinforcing steel in tiers. Mark each length, size, shape and location. Maintain reinforcement free of dirt, mud, paint or rust.

17.04 REFERENCE STANDARDS

- A. American Concrete Institute (ACI):
 - 1. ACI 315, Manual of Standard Practice for Detailing Reinforced Concrete Structures.
 - 2. ACI 318-95, Building Code Requirements for Reinforced Concrete.
- B. American Society for Testing and Materials (ASTM - latest editions):
 - 1. ASTM A233, Mild Steel Arc Welding Electrodes.
 - 2. ASTM A615, Deformed Billet-Steel Bars for Concrete Reinforcement.
 - 3. ASTM A706, Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
- C. Concrete Reinforcing Steel Institute (CRSI): Manual of Standard Practice, latest edition.
- D. American Welding Society (AWS): Reinforcing Steel Welding Code, D12.1-75, including latest revisions.

17.05 SUBMITTALS

- A. Shop Drawings: Indicate complete reinforcing method for each concrete member including materials, sizes, bends, dimensions, stirrup spacing, and placing details not shown on drawings.

PART 18 – PRODUCTS

18.01 MATERIALS

- A. Steel Reinforcement: Deformed billet steel, ASTM A615, Grade 60.
- B. Welded Steel Reinforcement: Deformed low-alloy steel, ASTM A706, carbon content not exceeding 0.30% and manganese content not exceeding 0.60%. Identify and tag with manufacturer's heat identification number.

18.02 FABRICATION

- A. Fabricate to sizes, hooks, splices, shapes, and lengths as detailed in accordance with the requirements of ACI 318 and ACI 315.

PART 19 – EXECUTION

19.01 INSTALLATION

- A. Accurately place reinforcing steel in accordance with approved shop drawings. Thoroughly clean reinforcement of any coating which would reduce bonding. Do not splice reinforcement at points of maximum stress. Stagger splices in adjacent bars and provide a minimum overlap of 30-bar diameters at splices.
- B. Securely saddle tie intersections with No. 18 gauge black annealed wire. Rigidly secure reinforcement in place.
- C. Secure and align reinforcing, anchor bolts, inserts and etc. rigidly in place prior to pouring concrete.
- D. Bend all hooks in accordance with ACI 318 unless otherwise noted. Provide 135 degree minimum turn, plus a 4" extension at free ends of column pilaster ties.
- E. All rebar shall be cold bent.
- F. Where reinforcing is shown continuous thru construction joints, Lenton Form Savers dowel bar splice devices as manufactured by Erico Products, Inc. (ICBO #3967) or equal may be used. Sizes and types shall be selected to develop the full tension strength if the bar per ICBO Research Report.
- G. Lap splices in reinforcing bar shall be by the non-contact lap splice method.

19.02 REINFORCEMENT CLEARANCES

- A. Minimum acceptable clearances for rebar and dowels.
 - 1. Flatwork or shotcrete surfaces exposed to weather shall be not less than 2".
 - 2. Flatwork or shotcrete surfaces exposed to earth shall be not less than 3".
 - 3. Formed surfaces exposed to earth or weather shall be not less than 3".
 - 4. Other surfaces, unless otherwise noted shall be 1-1/2".

5. Parallel reinforcement bars shall be 1.5x bar diameters but not less than 1-1/2".
 6. Lap splices shall be no less than 2".
- B. Minimum acceptable clearances for welded wire fabric.
1. All flatwork shall be not less than 2".
- C. Minimum acceptable clearances for speed or slip dowels.
1. All surfaces shall be 3".

19.03 WELDING REINFORCEMENT

- A. Weld deformed steel reinforcement bars in strict accordance with AWS 12.1, using recommended pre-heat temperature and suitable electrodes for type of steel being welded.
- B. Do not weld steel reinforcement bars without proper heat identification of bars.

19.04 CLEANUP

- A. Remove debris and trash resulting from specified work.

END OF SECTION 03210

SECTION 03310

CAST-IN PLACE CONCRETE

PART 20 – GENERAL

20.01 DESCRIPTION

- A. Provide cast-in-place concrete for the facility as designated in the construction drawings. Refer to the construction drawings for specific locations of cast-in-place concrete.

20.02 RELATED WORK

- A. Section 03110: Concrete Formwork
- B. Section 03210: Concrete Reinforcement
- C. Section 03370: Shotcrete
- D. Section 03380: Concrete Curing

20.03 SUBMITTALS

- A. Design of Concrete Mixes: Submit design mix to the City of Ann Arbor Construction Administrator and the Testing Company for approval:
 - 1. The Contractor shall be responsible for and pay for the design of the concrete mixes. Design of concrete mixes shall be performed by a Testing Laboratory selected by the City of Ann Arbor. Design of mix to be in accordance with ACI 318.
 - 2. Three trial mixes to be prepared.
 - 3. Make advance tests of trial mixes. Test four cylinders in accordance with ASTM C-39 at 7 days and 28 days. Do not place concrete on the Project Site until laboratory reports and breaks of confirmation cylinders indicate that proposed mixes will develop the required strength.
 - 4. Check mix design and revise, if necessary, wherever changes are made in aggregate or in surface water content of aggregate or workability of concrete. Slump shall be the minimum to produce a workable mix. Laboratory shall prescribe minimum quantity of water.
 - 5. If Portland cement reducers or other additives are used, submit control mix design without reducers or additives as well as mix exactly proposed to be used for this project.
- B. Manufacturer's Data: Current printed specifications with application and installation instruction for proprietary materials including concrete admixtures.
- C. Pour Schedule: The Contractor to submit a schedule of locations to be poured 72 hours prior to pouring and sequence of pours for approval by the City of Ann Arbor Construction Administrator.

20.04 QUALITY ASSURANCE

- A. Concrete Mock Up:
 1. Before beginning work, cast a 4'-0" x 4'-0" x 4" square mock up (not part of finished Project) complete with the specified finish and typical reinforcement as in the proposed structure. Provide one test panel on site for each type of concrete finish. Location on site as agreed upon by the City of Ann Arbor Construction Administrator.
 2. Protect mockup until its removal. Make such modifications as necessary to achieve a mockup satisfactory to the City of Ann Arbor Construction Administrator and Wally Hollyday Skateparks' approval.
 3. Approved mockup shall serve as the standard for all remaining work. Remove mockup only after completion and acceptance of all concrete work.

20.05 COORDINATION

- A. Notify responsible trades of schedules of concrete pours so as to allow adequate time for installation of work and inspection prior to pour. Obtain all materials and other miscellaneous steel items to be cast into concrete. Verify all measurements and layout to avoid any delay.

20.06 REFERENCE STANDARDS

- A. ACI 211.1 - Recommended Practice for Selecting Proportions for Normal-Weight Concrete.
- B. ACI 211.3 - Recommended Practice for Selecting Proportions for Lightweight Concrete.
- C. ACI 301 - Specifications for Structural Concrete for Buildings.
- D. ACI 305 - Recommended Practice for Hot Weather Concreting.
- E. ACI 306 - Recommended Practice for Cold Weather Concreting.
- F. ACI 318 - Building Code Requirements for Reinforced Concrete.
- G. ASTM C33 - Concrete Aggregates.
- H. ASTM C94 - Ready-Mixed Concrete.
- I. ASTM C143 - Test for Slump of Portland Cement Concrete.
- J. ASTM C150 - Portland Cement.
- K. ASTM C260 - Air-Entraining Admixtures for Concrete.
- L. ASTM C494 - Chemical Admixtures for Concrete.
- M. ASTM C618 - Fly Ash and Raw or Calcined Natural Pozzolans for Use in Portland Cement Concrete.

20.07 JOB CONDITIONS

- A. Environmental Conditions: Submit written plan to monitor wind velocity, relative humidity, temperature, and concrete temperature in order to maintain specified maximum rate of evaporation.
- B. Coordination:
 - 1. Contractor to coordinate concrete pour schedule to allow adequate time for installation of other related work.
 - 2. Contractor to verify that anchor bolts and other embedded steel items to be cast into concrete are accurately located prior to pouring. All embedded anchor bolts to be set using a checked and approved template.
 - 3. Contractor to coordinate size and location of mechanical and electrical equipment concrete pads with the mechanical and electrical supplier's details and specifications.
 - 4. Contractor to coordinate earthwork and soils report requirements with placement requirements.
 - 5. Contractor to ensure that the form-work and finishes work is provided as detailed on the drawings. Slope to drains at grades at the gradient shown on the construction drawings.

20.08 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301, Section 6 - Architectural Concrete.
- B. Obtain each material from the same source and maintain a high degree of consistency in workmanship throughout Project.

PART 21 – PRODUCTS

21.01 MATERIALS

- A. Portland Cement: ASTM C150, Type I or II, use only one brand for all mixes.
- B. Fine Aggregate: Clean, hard, durable, uncoated natural sand, free from silt, loam or clay, meeting requirements of ASTM C-33.
- C. Coarse Aggregate: Class II-Hard durable, un-coated crushed limestone meeting requirements of ASTM C-33. Unless otherwise noted in aggregate size 1" maximum, No. 5, 56 or 57.
- D. Water: Fresh, clean, potable, and free of deleterious acids, mixing, and curing water, as available from the City of Ann Arbor.
- E. Admixtures: Use City of Ann Arbor accepted admixtures meeting the following requirements:
 - 1. Chemical Admixtures: ASTM C494
 - 2. Water reducing, retarding or accelerating admixtures shall conform to ASTM C494.
 - 3. Air-entraining Admixtures for Shotcrete: ASTM C1141. Air entraining shall be 1.5% - 3% by volume.
 - 4. The use of Calcium Chloride shall not be permitted. The Contractor shall submit details of proposed admixtures with the concrete mix design.

21.02 PROPORTIONS AND MIXING

- A. Proportions and design in accordance with approved mix design.
 - 1. Portland Cement: 480 pounds [217.72kg] minimum per 27 cubic foot [0.76m³] design.
 - 2. 28-Day Compression Strength: 4000 p.s.i. Selected mix proportions on the basis of compressive strength tests of specimens shall be cut from the concrete test panels not earlier than 5 days after concrete placement. For mix acceptance purposes, average core strengths shall be least equal to f'c for cores with L/D of 2.0. For cores with L/D between 1.0 and 2.0, use correction factors given in ASTM C42.
 - 3. Slump: 4" [10.16cm] maximum.
 - 4. Admixture: No admixtures without approval. Introduce admixtures in quantities and according to methods recommended by admixture manufacturer. Add air-entraining agent to concrete as required.
 - 5. Mixing: Ready mixed concrete in accordance with ASTM C-94. Do not transport or use concrete after 1-1/2 hours have elapsed from time of initial mixing. Supplier of transit-mixed concrete shall have a plant of sufficient capacity, and adequate transportation facilities to assure continuous delivery at the required rate, to provide continuous concrete placement throughout a pour.
 - 6. Grout and Dry Pack: Non-Shrink, Non-Metallic: U.S. Grout Corp. "Five Star Grout" ASTM C-877, C-191, and C-109, 5,000 p.s.i.
 - 7. Test Data: Submit for acceptance proportioning and test data from prior experience if available. If data from prior experience are not available or accepted, make and have tested specimens from three or more different mix proportions in accordance with pre-construction testing requirements of this Specification.
 - 8. Review: Mix design shall be reviewed for acceptance by the City of Ann Arbor Construction Administrator and Testing Company.

21.03 CONCRETE COLORS

- A. Concrete Color:
 - 1. Cement: Color shall be gray.
 - 2. Sand: Color shall be locally available natural sand.
 - 3. Aggregate: Concrete producer's standard aggregate complying with ASTM Specifications.
 - 4. Color Additives: Dosage rate shall be based on weight of Portland cement, silica fume, lime, and other cementitious materials but not aggregate or sand.
 - 5. Dosage rate of color additive shall not exceed 10 percent by weight of cementitious materials in concrete mix.

PART 22 – EXECUTION

22.01 INSPECTION

- A. Inspect subgrade, forms, reinforcing steel, pipes, conduits, sleeves, hangers, anchors, inserts, and other work required to be built into concrete and report any discrepancies. Notify the City of Ann Arbor at least 5 working days in advance of any scheduled pour.

- B. Correct unsatisfactory work prior to pouring concrete.
- C. Remove loose cement from formwork prior to placing concrete.

22.02 INSTALLATION

- A. Placing Concrete:
 - 1. Convey and place concrete allowing no separation of ingredients in accordance with ACI 304 and as specified below.
 - 2. Maximum height of concrete free fall: Five feet [1.52m].
 - 3. Regulate rate of placement to maintain plasticity and flow into position.
 - 4. Deposit concrete continuously until panel or section is completed.
 - 5. Place concrete in horizontal layers, 18 inches maximum thickness.
 - 6. Concrete shall be placed within 90 minutes of batching and shall not exceed a temperature of 90°F [32°C] unless pre-approved by the Client's Representative.
- B. Consolidation:
 - 1. Use mechanical vibrating equipment for consolidation.
 - 2. Vertically insert and remove hand-held vibrators at 18 inches o.c. for 10 to 15 seconds.
 - 3. Do not use vibrators to transport concrete in forms.
 - 4. Provide vibrators with minimum speed of 8000 RPM and with amplitude to consolidate effectively.
 - 5. Thoroughly consolidate concrete and work around reinforcement, embedded items and into corners of forms. Thoroughly consolidate layers of concrete with previous layers.
- C. Construction Joints:
 - 1. Unless otherwise shown in the construction drawings, each footing, wall, beam, and slab shall be considered as a single unit of operation and shall be monolithic in construction.
 - 2. Where construction joints are absolutely unavoidable, locate joints at or near quarter points of spans where approved by the Construction Administrator and as shown on the construction drawings.
 - 3. Locate saw cut joints, expansion joints and cold joints as detailed on the construction drawings.
- D. Expansion Joint Fillers:
 - 1. Refer to the construction drawings for expansion joint locations and details.
 - 2. Finish joint material shall be per plans.
 - 3. Finish joint material flush with concrete surface.
- E. Hot Weather Placement:
 - 1. Prevent high temperature in fresh concrete during hot weather in accordance with ACI 305. Concrete not to be placed when temperature is in excess of 90 deg F.
 - 2. Use water reducing set retarding admixtures in such quantities as especially recommended by manufacturer to assure that concrete remains workable and placement joints will not be visible.
- F. Cold Weather Placement:

1. The Contractor is not to place concrete unless the temperature can be maintained at 50 deg F for a period of three (3) days or more after the concrete is placed.

G. Flatwork:

1. Cast slabs-on-grade in alternate sections, unless permanent forms are used. Wait 48 hours between all adjacent concrete castings.
2. Plane Surface Tolerance: Exterior- Class AX, 3/16 inches in 10 feet with no ponding.
3. Maximum 1:500 slope from indicated plane at any point.

H. Finish:

1. All off-form surfaces and Shotcrete surfaces to receive a smooth metal Trowel finish that matches the approved Concrete Type Mock-ups.

I. Cracking:

1. Cracking from inadequate curing is not allowed. Sawcut joints and construction joints are detailed on the construction drawings. The Contractor may, with approval of the Construction Administrator, recommend and detail other joints required to prevent cracking.
2. The Contractor shall fix all cracks and displacements greater than 1/16".

22.03 CLEAN UP

- A. Clean all debris, excess concrete and miscellaneous material associated with work.

END OF SECTION 03310

SECTION 03370

SHOTCRETE

PART 23 – GENERAL

23.01 SUMMARY

- A. Specialty Construction:
 - 1. Description: Shotcrete application, cutting, sculpting and finish work has been deemed as specialty construction work within the construction documents. All Contractor work related to the specialty construction shall be coordinated with Wally Hollyday Skateparks prior to the start of construction.

- B. Related Work:
 - 1. Section 03110: Concrete Formwork
 - 2. Section 03210: Concrete Reinforcement
 - 3. Section 03310: Cast-In-Place Concrete
 - 4. Section 03380: Concrete Curing

23.02 QUALITY ASSURANCE

- A. Standards: Comply with the requirements of the current edition of the following codes and standards, except as herein modified:
 - 1. IBC: "International Building Code", latest edition.
 - 2. American Concrete Institute (ACI): 506, Chapter 13, Wet Method. Chapter 5, Shotcrete Crew.
 - 3. ASTM: "American Society for Testing Materials"

- B. Contractor's Required Experience:
 - 1. The skate park contractor shall show evidence of having adequate experience in constructing quality concrete skate parks. In order to be considered for this project, the skate park contractor must have self-performed shotcrete for at least five (5) public poured-in-place concrete skate parks within the last 4 years. The skate parks must be complete and currently in operation. The examples must include features similar in nature to the Ann Arbor project. Experience constructing skatepark bowls in excess of 9 foot deep with pool coping must be included in qualifying examples. The contractor must submit a list of qualifying projects with the name, address, and current telephone number of the Client's operator and Architect of Record. Pre-cast skatepark experience will not be considered as qualifying examples.
 - 2. The city and its agents reserve the right to consider contractor's references and reputation in determining qualifications of specialty skate park contractor. Acceptance of qualifications to meet minimum specialty skate park contractor requirements will be determined solely at the discretion of the city with prior approval of the design consultant.

- C. Concrete Testing:
1. Prepare test specimens by each application crew using the equipment, materials and mix proportions proposed for the Project. The City of Ann Arbor Construction Administrator and /or testing company shall observe preparation of test panels noting placement of shotcrete by applications crew.
 2. Test panel shall be at least 4 feet x 4 feet x 6 inch sample (not part of finished Project) with a 7'-0" radius, the same reinforcement as in the proposed structure and 2" round (HSS 2.375" x 0.154") steel coping. Provide one test panel on site for each specified type of concrete finish. A Testing shall take at least three (3) cores from the specimen and test them in accordance with the requirements of ASTM C42.
 3. Secure and protect Test Panels during construction and test for compliance with these Specifications.
- D. Test strength of the shotcrete as work progresses as follows:
1. Test concrete cylinders in accordance with ASTM C42. A set of three (3) cylinders shall be made not less than once each shift or no less than one for each 50 cubic yards of shotcrete placed through the nozzle. Cylinders shall be soaked in water for a minimum of 40 hours before testing.
 2. When the length of a cylinder is less than twice the diameter, apply the correction factors given in ASTM C42 to obtain the compressive strength of individual cylinders. The average compressive strength of three cylinders taken, representing a shift or 50 cubic yards of shotcrete, must equal or exceed 0.85f'c with no individual cylinder less than 0.75f'c.
- E. Shotcrete cylinders grade 2 required.
- F. Acceptance: Final acceptance of the shotcrete will be based upon the results obtained from testing of the specimen cylinders tested strictly in accordance with the provisions of ACI 506.2. A mean test cylinders grade of 2.5 or less is acceptable. Individual shotcrete test cylinders with a grade greater than 3 are unacceptable. Use of data obtained from impact devices will not be permitted for final acceptance of the shotcrete. However, these data may be useful for determining uniformity of the shotcrete.
- G. Certification: Nozzleman certification shall be in accordance with ACI 506.3R

23.03 SUBMITTALS

- A. Design of Concrete Mixes: Submit two copies of design mix to the City of Ann Arbor Construction Administrator for approval:
1. The Contractor shall be responsible for and pay for the design of all concrete mixes. Design of concrete mixes shall be performed by a Testing Laboratory selected by the Client. Design methods to be in accordance with ACI 318-71.
 2. Make three trial mixes using the proposed aggregate.
 3. Make advance tests of trial mixes with proposed materials. Test four cylinders in accordance with ASTM C-39 at 7 days and 28 days. Do not place concrete on the Project Site until laboratory reports and breaks of confirmation cylinders indicate that proposed mixes will develop required strength?
 4. Check mix design and revise, if necessary, wherever changes are made in aggregate or in surface water content of aggregate or workability of

concrete. Slump shall be the minimum to produce a workable mix. Laboratory shall prescribe minimum water quantity.

5. If Portland cement reducers or other additives are used, submit control mix design without reducers or additives as well as mix exactly proposed to be used.

- B. Manufacturer's Data: Current printed specifications with application and installation instruction for proprietary materials including concrete admixtures.
- C. Pour Schedule: The Contractor to submit schedule of locations to be shot within a day's work and sequence of work for review by the Client.
- D. Shop Drawings: Radial templates cut to exact radii shown on drawings to ensure exact radii from flat bottom of bank/embankment to face of coping. Template shall be fabricated from steel or 3/4" Plywood.
- E. Concrete Samples: Representative samples of materials for materials testing, mix proportion testing, and finish. Provide on site, minimum (1) 4'-0" x 4'-0" x 6" sample (not part of finished Project) of shotcrete with a 3'-0" radius and the same reinforcement as in the proposed structure for finish inspection and approval.

23.04 DELIVERY, HANDLING, AND STORAGE

- A. Properly deliver and handle materials to prevent contamination, segregation or damage to materials.
- B. Store cement in weather tight enclosures raised above grade to protect against dampness and contamination.
- C. Prevent segregation and contamination of aggregates by proper arrangement and use of stockpiles.
- D. Store admixtures in accordance with the manufacturer's recommendation to prevent contamination, evaporation, or other damage.

23.05 REFERENCE STANDARDS:

- A. ACI 211.1 - Recommended Practice for Selecting Proportions for Normal-Weight Concrete.
- B. ACI 211.3 - Recommended Practice for Selecting Proportions for Lightweight Concrete.
- C. ACI 301- Specifications for Structural Concrete for Buildings.
- D. ACI 305 - Recommended Practice for Hot Weather Concreting.
- E. ACI 306 - Recommended Practice for Cold Weather Concreting.
- F. ACI 318 - Building Code Requirements for Reinforced Concrete.
- G. ASTM C33 - Concrete Aggregates.

- H. ASTM C94 - Ready-Mixed Concrete.
- I. ASTM C143 - Test for Slump of Portland Cement Concrete.
- J. ASTM C150 - Portland Cement.
- K. ASTM C260 - Air-Entraining Admixtures for Concrete.
- L. ASTM C494 - Chemical Admixtures for Concrete.
- M. ASTM C618 - Fly Ash and Raw or Calcined Natural Pozzolans for Use in Portland cement concrete.

23.06 JOB CONDITIONS:

- A. Environmental Conditions: Submit written plan to City of Ann Arbor indicating methods used to monitor wind velocity, relative humidity, temperature, and concrete temperature in order to maintain specified maximum rate of evaporation.
- B. Coordination:
 - 1. Coordinate schedules of concrete work to allow adequate time for installation of other related work.
 - 2. Contractor to ensure that anchor bolts and other embedded steel items to be cast into concrete are accurately placed in accordance with the plans.
 - 3. Contractor to ensure that the mechanical and electrical equipment pads are constructed in accordance with the manufacturers requirements.
 - 4. Contractor to ensure that all footings are placed on well compacted and leveled grade in accordance with the soils report and its recommendations.
 - 5. Contractor to ensure that all formwork is installed with sufficient supports to prevent sagging and misalignment.
 - 6. Contractor to provide a power floated finish to all floors that allows for smooth drainage without depressions that could hold water. All slopes to drains are to be constructed as laid out on the plans.

PART 24 – PRODUCTS

24.01 MATERIALS:

- A. Portland Cement: ASTM C150, Type I or II.
- B. Fly Ash: ASTM C618.
- C. Fine Aggregate: Clean, hard, durable, uncoated natural sand, free from silt, loam or clay, meeting requirements of ASTM C-33.
- D. Coarse Aggregate: Class II-Hard durable, un-coated crushed limestone meeting requirements of ASTM C-33. Unless otherwise noted in aggregate size 3/8" maximum, No. 5, 56 or 57.
- E. Water: Fresh, clean, potable, and free of deleterious acids, mixing, and curing water, as available from the City of Ann Arbor.

- F. Admixtures: Use only accepted admixtures meeting the following requirements:
1. Chemical Admixtures: ASTM C494.
 2. Water reducing, retarding or accelerating admixtures shall conform to ASTM C.
 3. Air-entraining Admixtures: ASTM C1141. Air entrainment prior to shooting shall be no greater than 1.5% - 3%.
 4. The use of Calcium Chloride shall not be permitted. The Contractor shall submit details of proposed admixtures with the concrete mix design.

24.02 PROPORTIONS AND MIXING:

- A. Proportions and design in accordance with approved mix design.
1. Portland Cement: 600 pounds minimum per 27 cubic foot design.
 2. Fly Ash: Maximum 20% by weight of the combined total weight of the cement and fly ash.
 3. 28-Day Compression Strength: 4000 p.s.i. Selected mix proportions on the basis of compressive strength tests of specimens shall be cut from the concrete test panels not earlier than 5 days after concrete placement. For mix acceptance purposes, average core strengths shall be least equal to f'c for cores with L/D of 2.0. For cores with L/D between 1.0 and 2.0, use correction factors given in ASTM C42.
 4. Slump: 2" maximum.
 5. Admixture: No admixtures without approval. Introduce admixtures in quantities and according to methods recommended by admixture manufacturer. Add air-entraining agent to concrete as scheduled.
 6. Mixing: Ready mixed concrete in accordance with ASTM C-94. Do not transport or use concrete after 1-1/2 hours have elapsed from time of initial mixing. Supplier of transit-mixed concrete shall have a plant of sufficient capacity, and adequate transportation facilities to assure continuous delivery at required rate, to provide continuous concrete placement throughout a pour.
 7. Grout and Dry Pack: Non-Shrink, Non-Metallic: U.S. Grout Corp. "Five Star Grout" ASTM C-877, C-191, and C-109, 5,000 PSI.
 8. Test Data: Submit for acceptance proportioning and test data from prior experience if available. If data from prior experience are not available or accepted, make and have tested specimens from three or more different mix proportions in accordance with pre-construction testing requirements of this Specification.
 9. Review: Mix design shall be reviewed for acceptance by the City of Ann Arbor Construction Administrator and/or the approved testing company.

24.03 CONCRETE APPLICATION EQUIPMENT

- A. For Wet Mix Shotcrete:
1. Mixing Equipment: Capable of thoroughly mixing aggregate, cement and water in sufficient quantity to maintain continuous placement.
 2. Ready-mixed Concrete: ASTM C94, except that it may be delivered to the site in the dry state if the equipment is capable of adding the water and mixing it satisfactorily with the dry ingredients.
 3. Air Supply: Clean air adequate for maintaining sufficient nozzle velocity for parts of work, and for simultaneous operation of blow pipe for cleaning away rebound.

4. Delivery Equipment: Capable of discharging aggregate-cement-water mixture accurately, uniformly, and continuously through delivery hose.

PART 25 – EXECUTION

25.01 INSPECTION

- A. Examination: Examine concrete formwork and verify that it is true to line and dimension, adequately braced against vibration, and constructed to permit escape of air and rebound but to prevent leakage during shotcreting. Correct deficiencies.
- B. Inspection: Inspect reinforcement steel and items to be embedded in concrete. Correct any deviations from the accepted shop drawings.
- C. Notification: Notify other trades involved in ample time to permit the proper installation of their work. Contractor to coordinate with all trades and their respective work for a smooth project.
- D. Existing Surfaces: Examine existing concrete surfaces for unsound material. Correct deficiencies.

25.02 PREPARATION FOR INSTALLATION OF CONCRETE

- A. Forms: Use a form-coating material on removable forms to prevent absorption of moisture and to prevent absorption of moisture and to prevent bond with shotcrete.

25.03 CONCRETE BATCHING AND MIXING

- A. Proportions: Mix proportions shall be controlled by weight batching. The Contractor's Testing Laboratory shall maintain quality control records during shotcrete production and make those records available to the Client.
- B. Scheduling: Concrete shall be placed within 90 minutes of batching and shall not be placed when the temperature exceeds 90°F [32°C] unless pre-approved by the City of Ann Arbor Construction Administrator.

25.04 CONCRETE PLACEMENT

- A. Placement: Use suitable delivery equipment and procedures that will result in shotcrete in place meeting the requirements of this Specification. Determine operating procedures for placement in, extended distances, and around any obstructions where placement velocities and mix consistency must be adjusted.
- B. Placement Techniques: Do not place shotcrete if drying or stiffening of the mix takes place at any time prior to delivery to the nozzle.
 1. Control thickness, method of support, air pressure, and/or water content of shotcrete to preclude sagging or sloughing off. Discontinue shotcreting or provide suitable means to screen the nozzle stream if wind or air currents cause separation of the nozzle stream during placement.

2. Hold nozzle as perpendicular to surface as work will permit, to secure maximum compaction with minimum rebound.
3. In shotcreting walls, begin application at bottom. Ensure work does not sag.
4. Layering:
 - a. Build up layers by making several passes of nozzle over work area.
 - b. Broom or scarify the surface of freshly placed shotcrete to which, after hardening, additional layers of shotcrete are to be bonded. Dampen surface just prior to application of succeeding layers.
 - c. Allow each layer of shotcrete to take initial set before applying succeeding layers.
 - d. Use radial templates to insure exact radii from flat bottom of bank/embankment to face of coping. Template shall be fabricated from steel or 3/4" Plywood. Check every horizontal foot when applying shotcrete for conformance of intended wall radii. Brace template and place levels at arc to tangent connections to insure no kinks will be formed. Kinks at the bottom of bowls will not be accepted. Slumping of the shotcrete causing coping setback will not be accepted.
 - e. Remove any rebound or accumulated loose aggregate from surfaces to be covered prior to placing the initial or any succeeding layers of shotcrete.
5. Placement Around Reinforcement:
 - a. Hold the nozzle at such distance and angle to place shotcrete behind the reinforcement before any material is allowed to accumulate on its face. In the dry-mix process, additional water may be added to the mix when encasing reinforcement to facilitate a smooth flow of material behind the reinforcement.
 - b. Test to ascertain if any void or sand pockets have developed around or behind reinforcement by probing with an awl or other pointed tool after the shotcrete has achieved its initial set, by removal of randomly selected bars, or coring or other suitable methods.

- C. Access: Allow easy access to shotcrete surfaces for screening and finishing, permitting uninterrupted application.

25.05 REMOVAL OF SURFACE DEFECTS IN CONCRETE

- A. General: Remove and replace shotcrete which lacks uniformity, exhibits segregation honeycombing, or lamination, or which contains any dry patches, slugs, voids, or pockets. Remove and replace defective areas/panels of shotcrete.
- B. Sounding: Sound work with hammer for voids. Remove and replace damaged in-place shotcrete.

25.06 CONCRETE FINISH

- A. Finish-General: Smooth form finish shall consist of a smooth, hard, uniform texture with a minimum of seams.
- B. Radial/Banked Wall Finish: Float finish on radial/banked face of wall shall consist of a smooth, hard, uniform surface of smooth steel trowel. Level to a

tolerance of ¼ inch in 10 feet when tested with a 10 foot [3.05m] steel straightedge placed on the surface horizontally and vertically with radial/bank template with the appropriate radii/angle. Grinding the surfaces will not be an acceptable means of achieving the intended radii/angle. Concrete finish work shall match the approved sample poured on site.

25.07 CONCRETE JOINTS

- A. Cleaning: The entire joint shall be thoroughly cleaned and wetted prior to the application of additional shotcrete.
- B. Reinforcement: Make joints perpendicular to the main reinforcement. Continue reinforcement across joints.

25.08 CRACKING

- A. Cracking from inadequate curing is not allowed. Sawcut joints and construction joints are shown in the construction drawings. The Contractor may, with approval of the Construction Administrator, recommend and detail other joints required to prevent cracking.
- B. The Contractor shall repair all cracks and displacements larger than 1/16".

END OF SECTION 03370

SECTION 03380
CONCRETE CURING

PART 26 – GENERAL

26.01 DESCRIPTION

- A. Provide curing material for cast-in-place concrete flatwork, and shotcrete walls (radial and angled) for skate park facility.

26.02 RELATED WORK

- A. Section 03110: Concrete Formwork
- B. Section 03310: Cast in Place Concrete
- C. Section 03370: Shotcrete

26.03 SUBMITTALS

- A. Submit detailed technical data of products proposed for curing use for the City of Ann Arbor Construction Administrator's approval.
- B. Submit certification that all concrete materials meet the specification requirements.

26.04 DELIVERY AND STORAGE

Deliver materials in original sealed containers with seal and labels intact. Store in dry place. Use materials out of original containers only.

26.05 REFERENCE STANDARDS

- A. ASTM C309 – Specification for Liquid Membrane-Forming.

PART 27 – PRODUCTS

27.01 MATERIALS

- A. Curing Agent: Apply Clear Spray on cure agent after final finish is achieved. Submit proposed product to the City of Ann Arbor Construction Administrator. The Contractor is to remove cure agent at the end of cure period and power wash all walls prior to final acceptance.
- B. Plastic Protector: Cover concrete with polyethylene plastic to maintain temperature and moisture, if necessary. Seams in the plastic to be overlapped by 6", taped shut and weighted down as needed.

PART 28 – EXECUTION

28.01 CURING

- A. Immediately after the finishing operations have been completed and after the surface water has disappeared, the entire surface of the area poured shall be protected against rapid drying. Keep sealed with cure agent for necessary amount of time to reach concrete strength and inhibit moisture loss after placing, per manufacturer's recommendations.
- B. Curing Method: During the curing period, the concrete shall be maintained at a minimum temperature of 40 °F [4°C] and kept in a moist condition. For initial curing, concrete shall be kept continuously moist for 24 hours after placement is complete. Final curing shall continue for seven days after placement and shall consist of application of curing compound per ASTM C309. Apply at a rate sufficient to retain moisture, but not less than 1 gallon per 200 square feet.

28.02 CLEANUP

- A. The Contractor shall remove all curing agent from the concrete surface with power washing equipment and soft brush so as not to cause any abrasion to the finish work surface prior to final inspection. No Cure Agent shall be present on any surfaces for final inspection acceptance. Remove debris and trash resulting from specified work.

END OF SECTION 03380

SECTION 05510
METAL FABRICATION

PART 29 – GENERAL

29.01 SUMMARY

A. Specialty Construction:

1. Description: Coping/Rail Installation consisting of setting to horizontal locations and vertical elevations has been deemed as specialty construction work within the construction documents. All work related to the specialty construction shall be coordinated by the Designer, and the pre-qualified specialty Contractor, prior to the start of construction.

B. Related Work:

1. Section 03110: Concrete Formwork
2. Section 03210: Concrete Reinforcement
3. Section 03310: Cast-In-Place Concrete
4. Section 03370: Shotcrete

29.02 SUBMITTALS

A. Shop Drawings:

1. Submit shop drawings for all custom fabricated items under this Section. Indicate profiles, sizes, connections attachments, reinforcing anchorage, size and type of fasteners and accessories. Indicate welded connections using standard AWS welding symbols.
2. Verifications: Verify all measurements at the job. Show dimension, sizes, thicknesses, gauges, finishes, attachment, and relationship of work to adjoining construction. Where items must fit and coordinate with finished surfaces and construction spaces, take measurements at the job site and not scale off the Drawings.
3. Coordination: Coordinate with work of Cast-In-Place Concrete Section 03310.
4. Samples: Required for all Coping and Edging of concrete work. Submit finish metal samples for final finish selection. Submit prior to delivery to site. Attach name, address of manufacturer and/or supplier to each sample. All samples are to be approved by the City of Ann Arbor Construction Administrator and by the Skate Park Designer prior to placing the order.

29.03 QUALITY ASSURANCE

A. Welding:

1. All testing per the latest AWS codes and recommendations.
2. All non-structural welding shall be by qualified welders with experience in the type of weld and material specified.
3. Field Welds: Comply with AWS code of manual shielded metal-arc welding.

29.04 DELIVERY, HANDLING, AND STORAGE

- A. Coordination:
 - 1. Coordinate with work of Cast-In-Place Concrete Section 03310.
- B. Storage of Materials:
 - 1. Materials, which are stored at the Project Site, shall be above ground on platforms, skids, or other supports. Protect steel from corrosion. Store other materials in a weather-tight and dry place until ready for use.
- C. Protection:
 - 1. Use all means necessary to protect miscellaneous metals before, during and after installation and to protect the installed work and materials of all other trades.
 - 2. Protect any adjacent materials or areas below from damage due to weld splatter or sparks during field welding.
- D. Replacements:
 - 1. In the event of damage, contractor to repair damage at no cost to the City of Ann Arbor, Michigan.

29.05 JOB CONDITIONS

- A. The Contractor to examine existing project conditions in which the work is to be installed. The Contractor is to notify the Client if conditions are deemed unacceptable to begin work.
- B. Do not proceed with the work until the unsatisfactory conditions have been corrected.

29.06 COORDINATION

- A. Templates and Built-ins: Furnish all anchors, fastenings, sleeves, setting templates and layouts affecting or installed in the work of other trades.
- B. Delivery: Where items must be incorporated or built into adjacent work, deliver to trade responsible for such work in sufficient time that progress of work is not delayed. Be responsible for proper locations of such items.

29.07 JOB SITE SAMPLE

- A. The Contractor shall provide fabricated, on site samples of all metal item(s), complete with approved finish, for review by the Construction Administrator before fabrication can commence. Any fabrication of Project item(s) by the Contractor before the City's Construction Administrator's review and approval is strictly at the Contractor's own risk and expense.
- B. Approved sample(s) shall be used as the standard of workmanship and shall remain on site until work has been completed and approved by City of Ann Arbor Construction Administrator.

29.08 HOT DIP GALVANIZED STEEL PIPE COPING

- A. 0.1875" [4.76mm] thick, ASTM A-500 Grade B, (FY=46 KSI):
 1. 2" Round: HSS 2.375" [6.03cm]
 2. 2" X 2" Square: HSS 2.00" [5.08cm] X 2.00" [5.08cm]

29.09 HOT DIP GALVANIZED STEEL PIPE RAILING

- A. 0.1875" [4.76mm] thick, ASTM A-500 Grade B, (FY=46 KSI):
 1. 2" X 3" Rectangular: HSS 2.00" [5.08cm] X 3.00" [7.62cm]
 2. 2" x 6" Rectangular: HSS 2.00" [5.08cm] x 6.00" [15.24cm]
 3. 2" x 8" Rectangular: HSS 2.00 [5.08cm] x 8.00" [20.32cm]
 4. 2-1/2" x 4" Rectangular: HSS 2.50" [6.35cm] x 4.00" [10.16cm]
 5. 2-1/2" x 5" Rectangular: HSS 2.50" [6.35cm] x 5.00" [12.70cm]
 6. 3" Round: HSS 3.50" [8.89cm]
 7. 3" x 3" Square: HSS 3.00" [7.62cm] x 3.00" [7.62cm]
 8. 4" Round: HSS 4.50" [11.43cm]
 9. 4" x 4" Square: HSS 4.00" [10.16cm] x 4.00" [10.16cm]

29.010 COPING ANCHORS

- A. Anchor: 4" [10.16cm] X 3/8" [9.53mm] minimum hooked anchor bolts or Nelson Studs or similar.
- B. Spacing: 18" [45.72cm] on center and welded to the coping.

29.011 WELDING RODS

- A. E-70 series low hydrogen unless otherwise noted on plans.

29.012 GROUT

- A. Use non-shrink Master builder's "Embedco", Conrad Sovig's "Metel-Mxs Grout", Sonneborn's "Ferrolith G Redi-Mixed Grout" or approved equal.

29.013 OTHER MATERIALS

- A. All other materials, not specifically described but required for a complete and proper installation of miscellaneous metals, shall be new, first quality of their respective kinds and subject to the approval of the City of Ann Arbor Construction Administrator and Skate Park Designer.

PART 30 – EXECUTION

30.01 EXISTING CONDITIONS

- A. Inspection: Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

- B. Discrepancies: In the event of discrepancy, immediately notify the Construction Administrator.

30.02 COORDINATION

- A. General: Carefully coordinate with all other trades to ensure proper and adequate interface of the work of other trades with the work of this Section.
- B. Delivery: Contractor to ensure timely delivery of all metal fabrications to the job site in order to maintain the construction schedule.

30.03 INSTALLATION

- A. General:
 1. Install metal fabrications in strict accordance with the Drawings, the approved Shop Drawings, and all pertinent codes, regulations, and standards.
 2. Contractor to obtain City's Construction Administrator's approval prior to site cutting or making adjustments that are not part of the scheduled work.
 3. Install items square and level, accurately fitted and free from distortion or defects.
 4. Align all metal fabrications as shown on the Drawings and where vertical or horizontal members are shown, align them straight, plumb and level within a tolerance of one in 500.
 5. Make provisions for erection stresses by installing temporary bracing to ensure that all work is kept in alignment.
 6. Replace all items damaged during installation.
 7. Perform field welding in accordance with AWS D1.1
 8. After installation, grind and touch-up field welds.

30.04 WORKMANSHIP

- A. Layout: Set all work plumb, true, rigid and neatly trimmed out. Miter corners and angles of exposed molding and frames unless otherwise noted.
- B. Fitting: Fit exposed connections accurately together to form tight hairline joints.
- C. Labor: Employ only workmen specifically skilled in such work.

30.05 FABRICATION

- A. Shop assemble in the largest practicable or shippable dimensions, making members true to length so assembling may be done without the use of fillers.
- B. Provide all surfaces free of file marks, dents, hammer marks, wire edges or any unsightly surface defects.
- C. Roll pipe to conform to the top radius curve of each bowl and ledge as shown on drawings. Refer to drawings for relational tolerance to concrete surface and other steel.

30.06 ATTACHMENTS AND REINFORCEMENTS

- A. Do all cutting, shearing, drilling, punching, threading, tapping, etc. in the workshop prior to delivery, required for site metalwork or for attachment of adjacent work. If needed, drill or punch holes; do not use cutting torch.

30.07 OTHER CONNECTORS

- A. Make all permanent connections in ferrous metal surfaces using welds where at all possible; the use of mechanical fasteners will not be accepted.

30.08 WELDING

- A. Preparation: Remove all rust, paint, scale and other foreign matter. Wire brush all flame-cut edges. Clamp members as required and alternate welds, all as necessary to prevent warping or misalignment.
- B. Exposed Welds: Uniformly grind to a smooth bright finish all welds normally exposed to view and feel in the finished work.
- C. Faulty and Defective Welding: Chip out and replace all welding showing cracks, slag inclusion, lack of fusion, bad undercut or other defects ascertained by visual or other means of inspection. Replace and re-weld at no cost to the City of Ann Arbor.
- D. Field Welding:
 - 1. Procedure: Comply with AWS code of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work.
 - 2. Protection: Protect all adjacent surfaces from damage due to weld sparks, spatter, or tramp metal.

30.09 SURFACE TREATMENT AND PROTECTIVE COATINGS

- A. Cleaning:
 - 1. Thoroughly clean all mill scale, rust, dirt, grease, and other foreign matter from ferrous metal prior to any galvanizing or painting.
 - 2. Conditions, which are too severe to be removed, by hand cleaning, shall be cleaned using appropriate methods for solvent cleaning, power tool cleaning, and brush-off blast cleaning.
- B. Exterior Ferrous Metal:
 - 1. Grind smooth all welds, burrs, and rough surfaces. Clean all coping from grease.
 - 2. Thoroughly clean all mill scale, rust, dirt, grease and other deleterious matter prior to painting or galvanizing.
 - 3. All metal to be cleaned to a white metal blast cleaned surface using SSPC-SP5/NACE No. 1, white metal blast cleaning.
 - 4. All new steel to receive one Primer Coat (3.5mils minimum dry film thickness) of inorganic Zinc Silicate paint.
 - 5. All steel to receive one intermediate coat of (3-5 mils minimum dry film thickness) of Aluminum Epoxy Mastic Paint.

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 - 4. All new steel to receive one Primer Coat (3.5mils minimum dry film thickness) of inorganic Zinc Silicate paint.
 - 5. All steel to receive one intermediate coat of (3-5 mils minimum dry film thickness) of Aluminum Epoxy Mastic Paint.
 - 6. All steel to receive one finish coat of (3-5 mils minimum dry film thickness) of High Build Aliphatic Polyurethane Paint (Color –grey)
 - 7. All welds to be painted with primer after appropriate connections and grinding has taken place. Touch-up all scratched finish coat prior to shotcrete application.

30.010 CLEAN-UP

- A. Keep all areas of work clean, neat and orderly at all times. Keep paved areas clean during installation.

- B. Clean up and remove all debris from the entire work area prior to Final Acceptance to satisfaction of the Construction Administrator.

END OF SECTION 05510

SECTION 3293 – NATIVE PLANTING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This work shall consist of planting preparation, bare root tree installation, container shrub installation, disposal of excess and/or unsuitable materials, maintenance and warranty, as indicated on the plans or as directed by the ENGINEER.
- B. All work shall be performed in accordance with Section 815 of the 2003 Michigan Department of Transportation Standard Specifications for Construction and the City of Ann Arbor Public Services Department Standard Specifications for Construction (Orange Book), the best modern practices such as the standards set forth by the American Association of Nurserymen, and as specified herein. In the event that these specifications conflict, the more stringent requirements shall govern.
- C. An on-site meeting with the LANDSCAPE CONTRACTOR and the ENGINEER shall be scheduled by the ENGINEER prior to planting any plant material.

1.02 SUBMITTALS

- A. Within thirty (30) days after award of the contract the CONTRACTOR shall provide nursery sources and documentation of species availability for plant stock to the ENGINEER.
- B. The CONTRACTOR shall provide tree and shrub plant stock certificates containing the following information to the OWNER a minimum of one (1) month prior to the time of planting:
 - 1. Botanical name, including cultivar, and common name.
 - 2. Quantity
 - 3. Size
 - 4. Type (e.g., B&B, container, bare root, live stake)
 - 5. Origin (location grown and genotype)
 - 6. Name, address and phone number of supplier.
- C. The CONTRACTOR shall not make substitutions if specified landscape material is not obtainable. Submit proof of non-availability to ENGINEER together with proposal for use of equivalent material. All substitutions for materials or execution shall be approved by the ENGINEER in writing a minimum of one (1) month prior to construction. The ENGINEER reserves the right to require a sample of substituted material(s) prior to approval for construction.

1.03 QUALITY ASSURANCE

- A. Installation of trees and shrubs shall be carried out by LANDSCAPE CONTRACTORS and their employees who are thoroughly experienced and skilled in the work and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. The LANDSCAPE CONTRACTOR shall have a minimum of five (5) years

of documented experience in comparable work, particularly bare root and native wetland plant installation. Upon request, the contractor must supply documentation of such experience with at least three successful projects completed in the last five years. This documentation shall include at a minimum, the number and type of plants installed, number of acres planted, year project was completed, along with the project name, contact person, phone number, and address.

- B. The CONTRACTOR shall warrant all plant material to be true to botanical name.
- C. All plant stock shall be inspected and approved by the ENGINEER prior to installation. The ENGINEER shall reserve the right to refuse any plant material that is unacceptable upon delivery to the site.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Moving and storage of plant materials: CONTRACTOR shall take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.
 - 1. Spray deciduous plants in foliage with an approved antitranspirant immediately after digging to prevent dehydration.
 - 2. Legibly tag plants with botanical name and size in accordance with the standards of practice of the American Nursery and Landscape Association.
 - 3. Dig, pack, transport, and handle plants with care to ensure protection against injury. Fully protect plants from damage by sun, wind, drought, water and other injurious conditions during transportation to site and during temporary storage before planting.
 - 4. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival. The certificate shall be filed with the OWNER.
 - 5. No plant shall be bound with rope or wire in a manner that could damage or break the branches.
- A. Plant material delivery shall be the same day as planting. No plants shall be stored at the site without permission of the ENGINEER. Plants shall be carefully loaded and unloaded so as not to damage branching or root mass. Dropping of material will not be allowed. Plants in full leaf shall be thoroughly wetted down and completely covered with a wet tarp during transportation.
- B. All roots must be kept in a moist condition.
- C. Digging shall be done in the dormant season. Plant material which is poorly packed, or which arrives with the roots in a dry condition, as a result of improper packing, delay in transit, or from any other cause, will not be accepted. Stock shall be handled in such a manner that the roots shall remain intact, the branches unbroken, and the bark intact and not loosened from the wood. Stock shall be protected from drying and from temperatures below 50 degrees F and in excess of 90 degrees F prior to planting.

PART 2 – PRODUCTS

2.01 TREES AND SHRUBS

- A. Trees and shrubs shall be quality, nursery-grown stock with adequate root growth. Nursery stock shall meet the standards of the current edition of the American Standard for Nursery Stock as published by the American Association of Nurserymen, as well as the standards of Section 917 of the Michigan Department of Transportation Standard Specifications for Construction.
- B. Provide plants typical of their species or variety with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from insect pests, diseases, and physical injury. All plants shall have a fully developed form without voids and open spaces. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.
- C. Balled and burlapped plants: dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of plant, provide ball sizes complying with the latest edition of the American Standard for Nursery Stock. Cracked or mushroomed balls are not acceptable.
- D. Container stock: grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole. No plants shall be loose in container. Container stock shall not be pot bound.
- E. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project, for at least one year.
- F. Stock furnished shall be at least the minimum size indicated on the drawings. Larger stock is acceptable, at no additional cost and providing the larger plants will not be cut back to the size indicated on the drawings.
- G. The height of the tree, measured from the crown of the roots to the average height of the top of the tree, shall not be less than the minimum size designated in the plant list.
- H. No pruning wounds shall be present with a diameter of more than 1 inch and such wounds must show vigorous bark on all edges.
- I. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.
 - 1. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
 - 2. Single stemmed or thin plants will not be accepted.
 - 3. Side branches shall be generous, well-trimmed, and the plant as a whole well-bushed to the ground.

2.02 BARE ROOT TREES

- A. All specified bare-root trees shall be well rooted with a dense, fibrous root system produced by being grown in an air-pruning and fertilization system that stimulates lateral production of an extensive fine root mat. Minimum height and caliper as shown on plans.
- B. Acceptable stock shall be Forrest Keeling Nursery RPM ® stock (1-800-356-2401) or other supplier of equivalent material approved in writing

by the ENGINEER.

2.02 WEED BARRIER

- A. Synthetic, non-woven, needle punched fabric weighing 187 gm per m² with a minimum grab tensile strength of 3.5 pound and permeability of 0.1 inch/second.

2.03 METAL FASTENERS

- A. Fasteners shall be 11 gauge steel wire formed into "U" shaped staples, 6 inches long.

2.04 TOPSOIL

- A. Quantity: The CONTRACTOR shall be responsible for estimating the quantity of imported topsoil necessary to obtain the necessary depth of topsoil for planting. The approximate in-place quantity estimated on the plans is for information purposes only. The CONTRACTOR shall report any discrepancy between the estimate on the Plans to the ENGINEER.
- B. Imported topsoil shall be friable sandy loam capable of supporting optimal plant growth and development. It shall be free of clay lumps, subsoil, invasive weeds and seeds, stones, sticks and other extraneous materials.
- D. Analysis for existing and imported topsoil shall be done at the CONTRACTOR'S expense and shall be submitted to ENGINEER for approval prior to use. CONTRACTOR shall supply recommendations for starter fertilizer for both planting and seeding areas.
- E. The structural topsoil analysis for the wetland mitigation area shall include the following and be within the listed parameters:
 - Clay content: 5-10%
 - pH range: 6.0-7.0
 - Organic matter content: 5-20%
- F. The chemical soil analysis for the wetland mitigation area shall include the following and soils shall be adjusted with starter fertilizer based on the testing agencies recommendations:
 - Available Phosphorus
 - Exchangeable Potassium
 - Magnesium
 - Calcium
 - Cation Exchange Capacity
 - Percent Base Saturation of Cation Elements
 - Available Nitrogen
- G. The structural topsoil analysis for other areas shall include the following and be within the listed parameters:
 - Clay content: 5-15%
 - pH range: 6.0-7.5
 - Organic matter content: 2-5%

- H. The chemical soil analysis for other areas shall include the following and soils shall be adjusted with starter fertilizer based on the testing agencies recommendations:
 - Available Phosphorus
 - Exchangeable Potassium
 - Magnesium
 - Calcium
 - Cation Exchange Capacity
 - Percent Base Saturation of Cation Elements
 - Available Nitrogen

- I. Testing and recommendations for starter fertilizer for wetland mitigation area and other area topsoil may be performed through A&L Great Lakes Laboratories, Inc., Fort Wayne Indiana 1.260.483.4759.

2.04 COMPOST

A. Compost shall be used only from City of Ann Arbor, available from WeCare Organics 1.734.477.0334, or approved substitution.

PART 3 –

EXECUTION

3.01 TOPSOIL PLACEMENT AND FINE GRADING

- A. The Contractor shall be responsible for layout of all topsoil mounds. The contractor shall contact the Engineer after topsoil mound layout is complete for field review. The Engineer reserves the right to adjust topsoil mound locations, without adjusting topsoil quantities, to meet field conditions, at no additional cost to the Owner.

- B. Topsoil mounds shall be placed according to the drawings and maintained until time of tree planting. Contractor is responsible for providing adequate in place topsoil to plant the trees and shrubs as specified.

3.02 PLANT LAYOUT

- A. The Contractor shall be responsible for layout of all plants. The contractor shall contact the Engineer after plant layout is complete for field review. The Engineer reserves the right to adjust plant material locations, without adjusting plant quantities, to meet field conditions, at no additional cost to the Owner.

3.03 PLANTING SCHEDULE

- A. The bare root plants must be installed between March 1 and May 15 or October 15 and November 15, except with written permission of the ENGINEER.

- B. The container plants must be installed between May 1 and June 15 or October 1 and November 15.

- C. At the time of planting wetland areas, it is expected that soil moisture will be at or near saturation. The CONTRACTOR is responsible for planting

under favorable weather conditions and recommended season for plant survival and establishment.

3.04 DAMAGED AREAS

- A. The CONTRACTOR must take every precaution to minimize rutting and damage to areas where work is not specified. All damaged areas, as determined by the Engineer, shall be regraded, reseeded and replanted as specified.

3.05 EXCAVATION

- A. If hand-held rotating augers or other mechanical diggers are used to excavate holes, the vertical sides of the pits shall be scarified, fractured, or otherwise broken down to eliminate impervious surfaces. Excavated soil must be consolidated adjacent to the planting pits and not spread over adjacent areas where work is not specified.
- B. Installation of all plant material shall be in accordance with the standards set forth by the American Association of Nurserymen.

3.06 GEOTEXTILE WEED BARRIER

- A. Immediately following planting at the site, install a 3 foot x 3 foot (minimum) section of fabric around all shrubs and anchor with a minimum of 9 metal fasteners (1.5 foot on center) per plant. The fabric shall be one piece and shall only contain one cut to facilitate installation around the plant. Overlap cut edges by 3 inches and anchor with metal fasteners.

3.07 STAKING

- A. Staking shall be as shown on the plans.

3.08 MAINTENANCE

- A. Maintenance shall include all measures necessary to establish and maintain plants in a vigorous and healthy growing condition.
- B. Maintenance of plantings shall begin immediately after provisional acceptance is granted and shall continue as required until final acceptance at the end of the warranty period. Maintenance required prior to provisional acceptance shall be included in the contract unit price for each plant.
- C. The Contractor shall promptly perform needed maintenance.
- D. The Contractor shall irrigate all plants adequately to maintain an optimum supply of moisture within the root zone. Reoccurring overly dry or wet conditions shall be grounds for rejection of plant material. Watering and cultivating shall be performed in accordance with Section 815 of the 2003 MDOT Standard Specifications for Construction. Water shall come from a source approved by the Engineer. Water shall not be applied with a force that will displace mulch or cause soil erosion, and shall not be applied so quickly that the mulch and plants cannot absorb it.

- E. Watering and cultivating trees and shrubs during the establishment period shall be considered as incidental to the tree and shrub planting work unless a pay item for watering and cultivating has been included in the Bid Form. Water is to be supplied for plants that is clean, free from toxic amounts of salt, oil, acid alkali, organic matter or other substances harmful to plants.
- F. Stakes and guys shall be adjusted or replaced as required during the first year, then removed by the Contractor.
- G. The Contractor shall remove and replace dead and unacceptable plants as their condition becomes apparent at his/her sole expense.
- H. Selective weed control by hand weeding shall be done if competition threatens the establishment of plantings.
- I. Any herbicide or pesticide intended for use on site must be approved by the ENGINEER prior to use.
- J. Herbicide shall have Glyphosate as the primary active ingredient, and shall be labeled for aquatic use.
- K. The applicator must have a certified pesticide applicator license (that includes the category of aquatic pest control) from the State of Michigan. Contractor shall submit previous work experience documentation of applicator and plant specialist for approval to the Engineer.
- L. The use of insecticide or fungicide is not recommended and will only be approved under extreme circumstances. Under no circumstance will insecticide application be allowed in areas where the risk of surface water contamination exists.

3.09 FINAL ACCEPTANCE AND WARRANTY

- A. Provisional Acceptance will be granted upon the successful completion of all tree planting operations and the Engineer's verification that all work has been installed in accordance with the Plans and Specifications. Final Acceptance will be granted at the end of the third full growing season following the tree installation.
- B. After receiving a Notice of Provisional Acceptance, all trees and shrubs shall be maintained in a vigorous condition and warranted against defects including death, improper maintenance, and unsatisfactory growth until:
 - 1. October 15th, of the year which is two years following the plantings, for fall plantings, or
 - 2. June 15th, of the year which is two years following the plantings, for spring plantings.
- C. The plants will be inspected by the Engineer for a two year establishment period following installation. Any plants that did not survive will be replaced by the contractor at no additional cost. Replacement plants and planting operations shall be in accordance with the original specifications.

Replacements shall be made no later than the next succeeding planting season. Fully restore areas damaged by replacement operations to their original and specified condition.

- D. The Engineer and Contractor shall conduct the final acceptance inspections before the end of the Warranty period. Final acceptance will be granted when, in the opinion of the Engineer, all trees are growing and are in a healthy condition.
- E. Final Acceptance Inspection. - The final acceptance inspection of the tree work will be made by the Engineer and the Contractor just before the warranty period expires. All trees shall be growing and in a healthy condition. The site shall be cleaned-up, prior to the inspection.
 - 1. The final acceptance inspection of the trees shall be made during September of the third year.
 - 2. Trees that do not meet the contract requirements shall be replanted as originally described in the original project specifications and within acceptable planting dates as directed by the Engineer.
- F. Upon completion of plant installation, remove from the site and legally dispose of all trash and debris including any material removed during construction. Restore existing wetland and upland areas damaged by operations under the contract.

3.10 MEASUREMENT AND PAYMENT

- A. The completed work shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item</u>	<u>Pay Unit</u>
Bare-root trees with a dense, fibrous, air-pruned root system, 4 foot height and ½-inch caliper	Each
Shrubs, 2 gallon container size	Each

- B. Trees will be measured in place and paid by each and shall include all labor, equipment, materials, water, maintenance and warranty as required to meet the requirements of this specification.
- C. Payment schedule for each of the above items shall be as follows:
 - 1. Provisional Acceptance - After the initial installation of the trees, 50% of each unit price shall be certified for payment.
 - 2. After the Second full growing season, and when all the above referenced criteria have been met, an additional 25% of each unit price shall be certified for payment.
 - 3. Final Acceptance - After the Third full growing season, and when all the above referenced criteria have been met, an additional 25% of each unit price shall be certified for payment. This payment shall constitute 100% and final payment.

APPENDIX A

LABOR STANDARDS PROVISIONS FOR FEDERALLY ASSISTED PROJECTS

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

§ 5.5 Contract provisions and related matters.

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

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

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

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

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

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

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

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

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

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

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

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

1949 in the construction or development of the project), all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

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

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

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

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

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

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

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

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

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

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

program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

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

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

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

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

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

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

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

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

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

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

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

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

(3) *Withholding for unpaid wages and liquidated damages.* The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

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

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

APPENDIX B
DAVIS-BACON ACT
LABOR WAGE DECISION

Davis-Bacon/Prevailing Federal Wage Rates

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

General Decision Number: MI130074 01/04/2013 MI74

Superseded General Decision Number: MI20120074

State: Michigan

Construction Type: Heavy

County: Washtenaw County in Michigan.

HEAVY CONSTRUCTION PROJECTS

Modification Number Publication Date

0 01/04/2013

CARP0687-006 06/01/2012

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 29.19	22.77

ELEC0252-009 06/04/2012

	Rates	Fringes
ELECTRICIAN.....	\$ 38.98	20.18

ENGI0326-008 06/01/2012

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 38.59	20.30
GROUP 2.....	\$ 37.09	20.30
GROUP 3.....	\$ 35.59	20.30
GROUP 4.....	\$ 35.29	20.30
GROUP 5.....	\$ 34.47	20.30
GROUP 6.....	\$ 33.61	20.30
GROUP 7.....	\$ 32.64	20.30
GROUP 8.....	\$ 30.93	20.30
GROUP 9.....	\$ 22.59	20.30

FOOTNOTES: Tower cranes: to be paid the crane operator rate determined by the combined length of the mast and the boom.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane with boom & jib or leads 400' or longer

GROUP 2: Crane with boom & jib or leads 300' or longer

GROUP 3: Crane with boom & jib or leads 220' or longer

GROUP 4: Crane with boom & jib or leads 140' or longer

GROUP 5: Crane with boom & jib or leads 120' or longer

GROUP 6: Regular crane operator

GROUP 7: Backhoe/Excavator, Bobcat/Skid Loader, Boring Machine, Broom/Sweeper, Bulldozer, Grader/Blade, Loader, Roller, Scraper, Tractor, Trencher

GROUP 8: Forklift

GROUP 9: Oiler

IRON0025-006 06/04/2012

	Rates	Fringes
IRONWORKER		
Reinforcing.....	\$ 28.74	23.35
Structural.....	\$ 33.29	25.34

LABO0334-009 07/01/2012

	Rates	Fringes
Landscape Laborer		
GROUP 1.....	\$ 20.96	6.50
GROUP 2.....	\$ 16.74	6.50

LANDSCAPE LABORER CLASSIFICATIONS

GROUP 1: Landscape specialist, including air, gas and diesel equipment operator, lawn sprinkler installer and skidsteer (or equivalent)

GROUP 2: Landscape laborer: small power tool operator, material mover, truck driver and lawn sprinkler installer tender

* LABO0499-020 08/01/2012

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 27.19	13.13
GROUP 2.....	\$ 27.39	13.13
GROUP 3.....	\$ 27.51	13.13

LABORER CLASSIFICATIONS

GROUP 1: Common or General; Grade Checker

GROUP 2: Mason Tender - Cement/Concrete

GROUP 3: Pipelayer

PAIN0022-005 07/01/2008

	Rates	Fringes
PAINTER		
Brush & Roller.....	\$ 25.06	14.75
Spray.....	\$ 25.86	14.75

PLAS0514-002 11/01/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 31.91	14.34

PLUM0190-010 06/01/2012

	Rates	Fringes
PLUMBER.....	\$ 37.44	19.92

SUMI2010-072 11/09/2010

	Rates	Fringes
TRUCK DRIVER: Off the Road		
Truck.....	\$ 20.82	3.69

TEAM0007-006 06/01/2012

	Rates	Fringes
TRUCK DRIVER		
Dump Truck under 8 cu. yds.; Tractor Haul Truck....	\$ 24.895	.50 + a+b
Dump Truck, 8 cu. yds. and over.....	\$ 24.995	.50 + a+b
Lowboy/Semi-Trailer Truck.....	\$ 25.145	.50 + a+b

FOOTNOTE:

- a. \$351.00 per week.
- b. \$49.90 daily.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union

classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

APPENDIX C

CERTIFICATION DEPARTMENT

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

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

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

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

Name and Title of Authorized Representative

Name of Participant Agency or Firm

Signature of Authorized Representative

Date

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

APPENDIX D

DISADVANTAGED BUSINESS ENTERPRISES (DBE)

Disadvantaged Business Enterprises (DBE)

Prime contractors bidding on this project must follow, document, and maintain documentation of their Good Faith Efforts, as listed below, to ensure that Disadvantaged Business Enterprises (DBEs) have the opportunity to participate in the project by increasing DBE awareness of procurement efforts and outreach. Bidders must make the following Good Faith Efforts for any work that will be subcontracted.

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including placing DBEs on solicitation lists and soliciting DBEs whenever they are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could be subcontracted with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one DBE firm to handle individually.
5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce.

Subsequent to compliance with the Good Faith Efforts, the following conditions also apply under the DBE requirements. Completed Good Faith Efforts Worksheets (Attachment 1), along with the required supporting documentation outlined in the instructions, must be submitted with your bid proposal.

1. The prime contractor must pay its subcontractor for work that has been satisfactorily completed no more than 30 days from the prime contractor's receipt of payment from the owner.
2. The prime contractor must notify the owner in writing prior to the termination of any DBE subcontractor for convenience by the prime contractor.
3. If a DBE contractor fails to complete work under the subcontract for any reason, the prime contractor must employ the Good Faith Efforts if soliciting a replacement contractor.
4. The prime contractor must employ the Good Faith Efforts.

Disadvantaged Business Enterprise (DBE) Requirements Frequently Asked Questions Regarding Contractor Compliance

- Q:** What is the Good Faith Efforts Worksheet form and how is it to be completed?
- A:** This form captures efforts by the prime contractor to solicit DBEs for each area of work type that will be subcontracted out. A separate Good Faith Efforts Worksheet must be provided by the prime contractor for each area of work type to be subcontracted out. There are specific instructions that accompany this form that prescribe minimum efforts which bidders must make in order to be in compliance with the DBE requirements.
- Q:** Can non-certified DBEs be used?
- A:** While non-certified DBEs can be used, only DBEs, MBEs, and WBEs that are certified by EPA, SBA, or MDOT (or by tribal, state and local governments, as long as their standards for certification meet or exceed the standards in EPA policy) can be counted toward the fair share goal. Proof of certification by one of these recognized and approved agencies should be sought from each DBE.
- Q:** How does a DBE get certified?
- A:** Applications for certification under MDOT can be found at <http://mdot270.state.mi.us:8080/UCP/FormsServlet>.
- Applications for certification under EPA can be found on EPA's Small Business Programs website at <http://www.epa.gov/osbp/grants.htm> under Certification Forms.
- Q:** If a bidder follows the MDOT DBE requirements, will the bidder be in compliance with the SRF/DWRF DBE requirements?
- A:** No. Federally funded highway projects utilize DBE goals, which require that a certain percentage of work be performed by DBE subcontractors. For SRF/DWRF projects, there is no financial goal. However, there is a solicitation effort goal. Bidders must use Good Faith Efforts for each and every area of work to be subcontracted out to obtain DBEs. The bidders are not required to use DBEs if the quotes are higher than non-DBE subcontractors. **There is no required DBE participation percentage contract goal for the SRF/DWRF.**
- Q:** Must the Good Faith Efforts Worksheet and supporting documentation be turned in with the bid proposals?
- A:** Yes. This is a requirement to document that the contractor has complied with the DBE requirements and the five Good Faith Efforts. These compliance efforts must be done during the bidding phase and not after-the-fact. It is highly recommended that the need for these efforts and the submittal of the forms with the bid proposals be emphasized at the pre-bid meetings. Failure to show that the five Good Faith Efforts were complied with during the bidding process can lead to a prime contractor being found non-responsive.

- Q:** What kinds of documentation should a contractor provide to document solicitation efforts?
- A:** Documentation can include fax confirmation sheets, copies of solicitation letters/e-mails, printouts of online solicitations, printouts of online search results, affidavits of publication in newspapers, etc.
- Q:** How much time will compliance with the Good Faith Efforts require in terms of structuring an adequate bidding period?
- A:** Due to the extent of the efforts required, a minimum of 30 calendar days is recommended between bid posting and bid opening to ensure adequate time for contractors to locate certified DBEs and solicit quotes.
- Q:** How does a contractor locate certified DBEs?
- A:** The Michigan Department of Transportation has a directory of all Michigan certified entities located at <http://mdot270.state.mi.us:8080/UCP/HomePageServlet>. Additionally, the Central Contractor Registration (CCR) database is another place to search and can be found at www.ccr.gov
- Q:** If the bidder does not intend to subcontract any work, what forms, if any, must be provided with the bid proposal?
- A:** The bidder should complete the Good Faith Efforts Worksheet with a notation that no subcontracting will be done. However, if the bidder is awarded the contract and then decides to subcontract work at any point, then the Good Faith Efforts must be made to solicit DBEs.
- Q:** In the perfect world, the Good Faith Efforts Worksheet is required to be turned in with the proposal. What if no forms are turned in with the bid proposal or forms are blank or incomplete? Should this be cause to determine that the bidder is non-responsive?
- A:** While the Good Faith Efforts Worksheet is important, it is more critical to confirm that the contractor complied with the DBE requirements prior to bid opening. The owner should contact the bidder as soon as deficiencies are noted for a determination/documentation of efforts taken to comply with the DBE requirements. Immediate submittal of the completed forms will be acceptable provided the Good Faith Efforts were made and it is just a matter of transferring information to the forms.
- Q:** If the prime contractor is a DBE, does he have to solicit DBE subcontractors?
- A:** Yes, the DBE requirements still apply if the prime intends to subcontract work out. Good Faith Efforts must be used to solicit DBEs.
- Q:** If the area of work is one where there are less than three DBE contractors, how is the contractor to document this?
- A:** Copies of printouts from MDOT and CCR showing no DBEs and advertisements soliciting quotes for all subcontract areas, including the questionable areas, will be adequate.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form**

NAME OF SUBCONTRACTOR¹	PROJECT NAME
ADDRESS	CONTRACT NO.
TELEPHONE NO.	EMAIL ADDRESS
PRIME CONTRACTOR NAME	

Please use the space below to report any concerns regarding the above EPA-funded project (e.g., reason for termination by prime contractor, late payment, etc.).

CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES RECEIVED FROM THE PRIME CONTRACTOR	AMOUNT SUBCONTRACTOR WAS PAID BY PRIME CONTRACTOR

_____	_____
Subcontractor Signature	Title/Date

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form**

NAME OF SUBCONTRACTOR ¹		PROJECT NAME
ADDRESS		BID/PROPOSAL NO.
TELEPHONE NO.		E-MAIL ADDRESS
PRIME CONTRACTOR NAME		
CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES BID TO PRIME	PRICE OF WORK SUBMITTED TO PRIME CONTRACTOR
Currently certified as an MBE or WBE under EPA's DBE Program? <input type="checkbox"/> Yes <input type="checkbox"/> No Signature of Prime Contractor _____ Date _____ Print Name _____ Title _____ _____ Signature of Subcontractor Date _____ _____ Print Name _____ Title _____		

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form**

BID/PROPOSAL NO.	PROJECT NAME
NAME OF PRIME BIDDER/PROPOSER	E-MAIL ADDRESS
ADDRESS	
TELEPHONE NO.	FAX NO.

The following subcontractors¹ will be used on this project:			
COMPANY NAME, ADDRESS, PHONE NUMBER, AND E-MAIL ADDRESS	TYPE OF WORK TO BE PERFORMED	ESTIMATE D DOLLAR AMOUNT	CURRENTLY CERTIFIED AS AN MBE OR WBE?
I certify under penalty of perjury that the forgoing statements are true and correct. In the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302(c).			
_____ Signature of Prime Contractor		_____ Date	
_____ Print Name		_____ Title	

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

APPENDIX E

DBE – GOOD FAITH EFFORTS WORKSHEET

**Michigan Department of Environmental Quality
Resource Management Division – Revolving Loan Section
Disadvantaged Business Enterprise (DBE) Utilization
State Revolving Fund/Drinking Water Revolving Fund
GOOD FAITH EFFORTS WORKSHEET**

Bidder: _____

Subcontract Area of Work: _____

Contract Goal: Solicit a minimum of three (3) DBEs via email/letters/fax.

List the DBEs contacted for the above area of work and complete the following information for each DBE.

Company Name	Type of Contact	Date of Contact	Price Quote Received	Accepted/ Rejected	Please Explain if Rejected
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	
				<input type="checkbox"/> A <input type="checkbox"/> R	

Explanation for Not Achieving Minimum Contacts (attach extra sheets if necessary):

MITA DBE Posting Date (if applicable): _____
(attach a copy of the DBE advertisement)

Other Efforts (attach extra sheets if necessary):

Please include the completed worksheet and supporting documentation with the bid proposal.

Rev.7-2012

Rick Snyder, Governor



Dan Wyant, Director

**Michigan Department of Environmental Quality
Resource Management Division – Revolving Loan Section
Disadvantaged Business Enterprise (DBE) Utilization
State Revolving Fund/Drinking Water Revolving Fund
GOOD FAITH EFFORTS WORKSHEET**

Instructions to Bidders for the Completion of the Good Faith Efforts Worksheet

1. Separate worksheets must be provided for each area of work to be subcontracted out. This includes both major and minor subcontracts.
2. A minimum of three (3) DBEs must be contacted by a verifiable means of communication such as e-mail, letter, or fax for each area of work to be subcontracted out. Copies of the solicitation letters/e-mails and fax confirmation sheets must be provided with the worksheet.
3. If this minimum number cannot be achieved with local DBEs, then the solicitations must be sent to DBEs outside of the local area (i.e. statewide).
4. Posting solicitations for quotes/proposals from DBEs on the MITA website (www.mitadbe.com) is highly recommended to facilitate participation in the competitive process whenever possible. The solicitation needs to identify the project and the areas of work to be subcontracted out. A copy of the MITA DBE advertisement must be submitted with the worksheet, if used, or a printout of the resulting quotes posted to the MITA website can be submitted with this form as supporting documentation.
5. If the area of work is so specialized that no DBEs exist, then an explanation is required to support that conclusion.
6. The date of the DBE contact must be identified, as it is important to document that the DBE solicitation was made during the bidding period and that sufficient time was given for the DBE to return a quote.
7. Each DBE firm's price quote must be identified if one was received or N/A entered on the worksheet if a quote was not received. Copies of all quotes must be submitted with the worksheet.
8. If a quote was received, indicate if it was accepted or rejected. Justification for not accepting a quote and not using the DBE subcontractor must be provided.
9. Under Other Efforts, please indicate additional steps you have taken to obtain DBE contractors and provide the appropriate supporting documentation such as:
 - Follow-up e-mails, faxes, or letters.
 - Copies of announcements/postings in newspapers, trade publications, or minority media that target DBE firms.

Rev. 7-2012

Rick Snyder, Governor



Dan Wyant, Director

APPENDIX F
CONTRACT COMPLIANCE &
LIVING WAGE FORMS



March 22, 2013

Dear City Contractor or Grantee:

As a recent or current contractor or grantee with the City of Ann Arbor, you are aware of your obligations under the Living Wage Ordinance, Chapter 23, Section 1:811-1:821. Thank you for your cooperation with these provisions.

The Ordinance requires that the rate of the Living Wage be adjusted upward each year in an amount equal to the increase in the U.S. Department of Health and Human Services Poverty Guidelines.

Therefore, as of April 30, 2013, all employers covered by the Living Wage Ordinance are required to pay employees working on a City of Ann Arbor project or grant the following wages:

- **\$12.52 per hour** If the employer provides health care benefits
- **\$13.96 per hour** If the employer does **not** provide health care benefits

The attached items require your attention:

- 1) Living Wage Compliance Report Form: Please complete the attached "Living Wage Declaration of Compliance Form", which acknowledges that all employees who are involved in any City of Ann Arbor project or grant are now or will be paid the new living wage listed above as of April 30, 2013 through April 29, 2014. This form is part of the mandatory monitoring process contained in the City Ordinance. Please return the form within 10 days of receipt of this letter by email to Procurement@a2gov.org.
- 2) An updated "City of Ann Arbor Living Wage Ordinance" poster reflecting the adjusted wage rates, which you are required to post in a prominent location for employees to see. Please feel free to copy this if you need more than one poster.

If you have any questions, please contact me at 734-794-6500.

Thank you for your cooperation.

Sincerely,

Karen Lancaster
Finance Director
City of Ann Arbor
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 employers providing services to the City or recipients of grants for financial assistance (in amounts greater than \$10,000 in a twelve-month period of time) pay their employees who are working on the City project or grant, a minimum level of compensation known as the **Living Wage**. This wage must be paid to the employees for the length of the contract/project.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from the Ordinance. If this exemption applies to your firm, please check below:

- _____ This **company** is exempt due to the fact that we employ or contract with fewer than 5 individuals.
- _____ This **non-profit agency** is exempt due to the fact that we employ or contract with fewer than 10 employees.

The Ordinance requires that all contractors/vendors and/or grantees agree to the following terms:

- a) To pay each of its employees performing work on any covered contract or grant with the City, no less than the living wage, which is defined as \$12.52/hour when health care is provided, or no less than \$13.96/hour for those employers that do *not* provide health care. It is understood that the Living Wage will be adjusted each year on April 30, and covered employers will be required to pay the adjusted amount thereafter. The rates stated above include any adjustment for 2013.
- b) Please check the boxes below which apply to your workforce:
 - Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage without health benefits Yes_____ No_____
 - OR**
 - Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage with health benefits Yes_____ No_____
- c) To post a notice approved by the City regarding the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- d) To provide the City payroll records or other documentation as requested; and,
- e) To permit access to work sites to City representatives for the purposes of monitoring compliance, investigating complaints or non-compliance.

The undersigned authorized representative hereby obligates the contractor/vendor or grantee to the above stated conditions under penalty of perjury and violation of the Ordinance.

Company Name

Address, City, State, Zip

Signature of Authorized Representative

Phone (area code)

Type or Print Name and Title

Email address

Date signed

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

CITY OF ANN ARBOR LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2013 - ENDING APRIL 29, 2014

\$12.52 per hour

If the employer provides health care benefits*

\$13.96 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.

For Additional Information or to File a Complaint Contact:

**Karen Lancaster, Finance Director
734/794-6500 or Procurement@a2gov.org**

The Law Requires Employers to Display This Poster Where Employees
Can Readily See It.

**INSTRUCTIONS FOR CONTRACTORS
FOR COMPLETING CONTRACT COMPLIANCE FORM**

City Policy

The “non discrimination in contracts” provision of the City Code, (Chapter 112, Section 9:161) requires contractors/vendors/grantees doing business with the City not to discriminate on the basis of actual or perceived race, color, religion, national origin, sex, age, condition of pregnancy, marital status, physical or mental limitations, source of income, family responsibilities, educational association, sexual orientation, gender identity or HIV status against any of their employees, any City employee working with them, or any applicant for employment. It also requires that the contractors/vendors/grantees include a similar provision in all subcontracts that they execute for City work or programs.

This Ordinance further requires that each prospective contractor/vendor submit employment data to the City showing current total employee breakdown by occupation, race and gender. This allows the Human Rights Office to determine whether or not the contractor/vendor has a workforce that is reflective of the availability of women and under-represented minorities within the contractor’s labor recruitment area (the area where they can reasonably be expected to recruit employees). ***This data is provided to the City on the Human Rights Contract Compliance Forms (attached).***

To complete the form:

1) If a company has more than one location, then that company must complete 2 versions of the form.

- **Form #1** should contain the employment data for the **entire corporation.**
- **Form #2** should contain the employment data for those employees:
 - who will be working on-site;
 - in the office responsible for completing the contract; or,
 - in the case of non-profit grantees, those employees working on the project funded by the City grant(s).

2) If the company has only one location, fill out Form #1 only.

3) Complete all data in the upper section of the form including the name of the person who completes the form and the name of the company/organization’s president.

4) Complete the Employment Data in the remainder of the form. Please be sure to complete all columns including the Total Columns on the far right side of the form, and the Total row and Previous Year Total row at the bottom of the form.

5) Return the completed form(s) to your contact in the City Department for whom you will be conducting the work.

For assistance in completing the form, contact:

Procurement Office of the City of Ann Arbor
734/794-6500

If a contractor is determined to be out of compliance, the Procurement Office will work with them to assist them in coming into compliance.

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**
Entire Organization (Totals for All Locations where applicable)

Form #1

Name of Company/Organization _____ Date Form Completed _____
 Name and Title of Person Completing this Form _____ Name of President _____
 Address (Street address) _____ (City) _____ (State) _____ (Zip) _____ County _____ Phone # _____ (Area Code) _____
 Fax# _____ (Area Code) _____ Email Address _____

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)											TOTAL COLUMNS A-L				
	Male						Female									
	White A	Black or African American B	Asian C	Hispanic or Latino D	Native Hawaiian or Other Pacific Islander E	American Indian or Alaska Native F	White G	Black or African American H	Asian I	Hispanic or Latino J	Native Hawaiian or Other Pacific Islander K		American Indian or Alaskan Native L			
Exec/Sr. Level Officials																
Supervisors																
Professionals																
Technicians																
Sales																
Admin. Support																
Craftspeople																
Operatives																
Service Workers																
Laborers/Helper																
Apprentices																
Other																
TOTAL																
PREVIOUS YEAR TOTAL																

Questions about this form? Call the Procurement Office: (734)794-6576

AAF-1

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**

Form #2

Local Office (Only those employees that will do local or on-site work, if applicable)

Name of Company/Organization _____ Date Form Completed _____
 Name and Title of Person Completing this Form _____ Name of President _____
 Address (Street address) _____ (City) _____ (State) _____ (Zip) _____ County _____ Phone # _____ (Area Code) _____
 Fax# _____ (Area Code) _____ Email Address _____

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)												TOTAL COLUMNS A-L		
	Male						Female								
	White A	Black or African American B	Asian C	Hispanic or Latino D	Native Hawaiian or Other Pacific Islander E	American Indian or Alaska Native F	White G	Black or African American H	Asian I	Hispanic or Latino J	Native Hawaiian or Other Pacific Islander K	American Indian or Alaskan Native L			
Exec./Sr. Level Officials															
Supervisors															
Professionals															
Technicians															
Sales															
Admin. Support															
Craftspeople															
Operatives															
Service Workers															
Laborers/Helper															
Apprentices															
Other															
TOTAL															
PREVIOUS YEAR TOTAL															

Questions about this form? Call Procurement Office: (734) 794-6576

AAF-2