

PUBLIC IMPROVEMENT REQUEST FOR PROPOSAL

RFP# 25-48

WTP FLOCCULATION 4/5 GALLERY IMPROVEMENTS

City of Ann Arbor
Water Treatment Services Unit



Due Date: November 6th, 2025 by 11:00 a.m. (local time)

Issued By:

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

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SECTION I - GENERAL INFORMATION

A. OBJECTIVE

The purpose of this Request for Proposal (RFP) is to select a firm to provide construction services to complete work at the Ann Arbor Water Treatment Plant including demolition and replacement of drain piping. The work also includes minor painting of exposed pipe and appurtenances.

B. 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.

Proposals that fail to provide a bid security upon proposal opening will be deemed non-responsive and will not be considered for award.

C. QUESTIONS AND CLARIFICATIONS / DESIGNATED CITY CONTACTS

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

All questions shall be submitted on or before October 21st, 2025 at 4:00 p.m. (local time), and should be addressed as follows:

Scope of Work/Proposal Content questions shall be e-mailed to Joe Siwek, PE at JSiwek@fishbeck.com.

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

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

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

D. PRE-PROPOSAL MEETING

A **mandatory** pre-proposal conference for this project will be held on **Wednesday, October 15th, 2025 at 10:00 a.m. (local time)** at the **Ann Arbor Water Treatment Plant (919 Sunset Road, Ann Arbor, MI)**. **Failure to attend the meeting and sign the RFP sign-in sheet at the pre-proposal meeting will automatically disqualify a bidder from submitting a valid proposal.** Any proposal submitted by a party not attending and signing the roster at the pre-proposal meeting will not be opened or considered. Administrative and technical questions regarding this project will be answered at this time. The pre-proposal meeting is for information only. Any answers furnished will not be official until verified in writing by the Financial Service Area Procurement Unit. Answers that change or substantially clarify the proposal will be affirmed in an addendum.

E. PROPOSAL FORMAT

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

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

F. SELECTION CRITERIA

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

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

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

G. SEALED PROPOSAL SUBMISSION

All proposals are due and must be delivered to the City on or before November 6, 2025 by 11:00 a.m. (local time). Proposals submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each respondent should submit in a sealed envelope

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

Proposals submitted should be clearly marked: **“RFP No. 25-48 – WTP Flocculation 4/5 Gallery Improvements”** and list the bidder’s name and address.

Proposals must be addressed and delivered to:

City of Ann Arbor
c/o Customer Service
301 East Huron Street
Ann Arbor, MI 48107

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

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

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

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

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

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

H. DISCLOSURES

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

I. TYPE OF CONTRACT

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

For all construction work, the respondent must further adhere to the City of Ann Arbor General Conditions. The General Conditions are included herein. Retainage will be held as necessary based on individual tasks and not on the total contract value. The Contractor shall provide the required bonds included in the Contract Documents for the duration of the Contract.

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

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

J. NONDISCRIMINATION

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

K. WAGE REQUIREMENTS

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

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of Michigan Department of Transportation Prevailing Wage Forms (sample attached hereto) or a City-approved equivalent will be required along with wage rate interviews.

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

For the purposes of this RFP the Construction Type of Building will apply.

L. CONFLICT OF INTEREST DISCLOSURE

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

M. COST LIABILITY

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

N. DEBARMENT

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

O. PROPOSAL PROTEST

All proposal protests must be in writing and filed with the Purchasing Manager within five (5) business days of any notices of intent, including, but not exclusively, divisions on prequalification of bidders, shortlisting of bidders, or a notice of intent to award. Only bidders who responded to the solicitation may file a bid protest. The bidder must clearly state the reasons for the protest. If any bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder

to the Purchasing Manager. The Purchasing Manager will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee, whose decision shall be final.

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

P. SCHEDULE

The following is the schedule for this RFP process.

Activity/Event	Anticipated Date (Local Time)
Pre-Proposal Conference	October 15 th , 2025 10:00 a.m.
Written Question Deadline	October 21 st , 2025, 4:00 p.m.
Addenda Published (if needed)	Week of October 27 th , 2025
Proposal Due Date	November 6 th , 2025 11:00 a.m.
Selection/Negotiations	November 2025
Expected City Council Authorizations	December 2025/January 2026

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

Q. IRS FORM W-9

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

R. RESERVATION OF RIGHTS

1. The City reserves the right in its sole and absolute discretion to accept or reject any or all proposals, or alternative proposals, in whole or in part, with or without cause.
2. The City reserves the right to waive, or not waive, informalities or irregularities in terms or conditions of any proposal if determined by the City to be in its best interest.
3. The City reserves the right to request additional information from any or all bidders.
4. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested within RFP.
5. The City reserves the right to determine whether the scope of the project will be entirely as described in the RFP, a portion of the scope, or a revised scope be implemented.
6. The City reserves the right to select one or more contractors or service providers to perform services.

7. The City reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the firm of the conditions contained in this RFP, unless clearly and specifically noted in the proposal submitted.
8. The City reserves the right to disqualify proposals that fail to respond to any requirements outlined in the RFP, or failure to enclose copies of the required documents outlined within the RFP.

S. IDLEFREE ORDINANCE

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

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

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

In addition, generators and other internal combustion engines are covered

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

T. ENVIRONMENTAL COMMITMENT

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

The City strongly encourages potential vendors to bring forward tested, emerging, innovative, and environmentally preferable products and services that are best suited to the City's environmental principles. This includes products and services such as those with lower greenhouse gas emissions, high recycled content, without toxic substances, those with high reusability or recyclability, those that reduce the consumption of virgin materials, and those with low energy intensity.

As part of its environmental commitment, the City reserves the right to award a contract to the most responsive and responsible bidder, which includes bids that bring forward products or services that help advance the City's environmental commitment. In addition, the City reserves the right to request that all vendors report their annual greenhouse gas emissions, energy consumption, miles traveled, or other relevant criteria in order to help the City more fully understand the environmental impact of its procurement decisions.

U. MAJOR SUBCONTRACTORS

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

V. LIQUIDATED DAMAGES

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

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

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

SECTION II - SCOPE OF WORK

The scope of work includes replacement of drain piping for the WTP Flocculation 4/5 Gallery, and replacement of Flocculation equipment. The Flocculation 4/5 Gallery houses the Flocculation Drives for Flocculation Basins 4 and 5, which leak sludge into the area. The drain piping has become clogged from excess sludge, and requires upsizing and rerouting. Replacement of select Flocculation equipment for Flocculation Basin 4 is also needed to prevent leaking.

The existing drain system consists of approximately 175 linear feet of 4-inch piping and associated supports, located below the floor slab of the Flocculation 4/5 Gallery and within Cistern No. 2. The piping and associated supports will be removed and replaced with 6-inch piping and supports as shown in the Drawings. Other work associated with the drain replacement will include recoating of existing drain castings and coring new and upsized penetrations in the Cistern wall.

Flocculation Basin 4 consists of (4) existing drives. The associated stuffing boxes, select bearings and sections of shafts, drive chains and sprockets will be replaced.

SECTION III - MINIMUM INFORMATION REQUIRED

PROPOSAL FORMAT

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

Bidders should organize Proposals into the following Sections:

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

Bidders are strongly encouraged to provide details for all of the information requested below within initial proposals. Backup documentation may be requested at the sole discretion of the City to validate all of the responses provided herein by bidders. False statements by bidders to any of the criteria provided herein will result in the proposal being considered non-responsive and will not be considered for award.

Pursuant to Sec 1:325 of the City Code which sets forth requirements for evaluating public improvement bids, Bidders should submit the following:

A. Qualifications, Experience and Accountability - 20 Points

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

B. Workplace Safety – 20 Points

1. Provide evidence of a bidder's safety program (link to information on bidder's publicly available web-site preferred) and evidence of a safety-training program for employees addressing potential hazards of the proposed job site. Bidders must identify a designated qualified safety representative responsible for bidder's safety program who serves as a contact for safety related matters.
2. Provide the bidder's Experience Modification Rating ("EMR") for the last three consecutive years. Preference within this criterion will be given to an EMR of 1.0 or less based on a three-year average.
3. Evidence that all craft labor that will be employed by the bidder for the project has, or will have prior to project commencement, completed at least an authorized 10-hour OSHA Construction Safety Course.
4. For the last three years provide a copy of any documented violations and the bidder's corrective actions as a result of inspections conducted by the Michigan Occupational Safety & Health Administration (MIOSHA), U.S. Department of Labor – Occupational Safety and Health Administration (OSHA), or any other applicable safety agency.

C. Workforce Development – 20 Points

1. Documentation as to bidder's pay rates, health insurance, pension or other retirement benefits, paid leave, or other fringe benefits to its employees.
- 2.. Documentation that the bidder participates in a Registered Apprenticeship Program that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the USDOL Office of Apprenticeship. USDOL apprenticeship agreements shall be disclosed to the City in the solicitation response.
3. Bidders shall disclose the number of non-craft employees who will work on the project on a 1099 basis, and the bidders shall be awarded points based on their relative reliance on 1099 work arrangements with more points assigned to companies with fewer 1099 arrangements. Bidders will acknowledge that the City may ask them to produce payroll records at points during the project to verify compliance with this section.

D. Social Equity and Sustainability – 20 Points

1. A statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan. The City will consider in evaluating which bids best serve its interests, the extent to which responsible and qualified bidders employ individuals in either the city or the county.
Washtenaw County jurisdiction is prioritized for evaluation purposes for this solicitation.
2. Evidence of Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses.
3. Evidence that the bidder is an equal opportunity employer and does not discriminate on the basis of race, sex, pregnancy, age, religion, national origin, marital status, sexual orientation, gender identity or expression, height, weight, or disability.
4. The bidder's environmental record, including findings of violations and penalties imposed by government agencies.

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Notes:

1. All three (3) Base Bid sections shall be bid. Bidders shall provide a Unit Price for ALL bid items for each Base Bid section and Total Price for ALL Base Bid sections specified.
2. Quantities included in the bid tables represent estimated quantities for different work. The Contractor shall be compensated for the actual number of items completed using the unit prices provided.
3. Each item shall include all preparatory and post repair work, including but not limited to field measurements, shop drawings, scaffolding, demolition, dust control, protection of Owner equipment, protection of process water, clean up, restoration, and all related items.
4. 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.
5. Any item not provided in the following list shall be considered incidental.
6. Contract shall be awarded based on the Base Bid or any combination of a Base Bid(s) and Alternate Bid(s) in any manner the City believes to be in its best interest.
7. Base Bid Item No. 3 shall not include purchase of Owner Procured Equipment, but shall include installation of Owner Procured Equipment, per Specification Section 46 "Flocculation Equipment".

Schedule

1. The Bidder agrees that the Work will be substantially and fully completed on or before the dates specified under Article III of the Contract, Time of Completion. Anticipated Notice to Proceed is December 2025.
2. Any exceptions to this schedule can be proposed by the prospective bidder in Section 3 – Time Alternate.

Base Bid –

For the entire work outlined in these documents for WTP Flocculation 4/5 Gallery Improvements, complete as specified, using equipment and materials only of the type and manufacturers where specifically named.

BASE BID #1 – Water Treatment Plant – Flocculation 4/5 Gallery Improvements

Location: 919 Sunset Road, Ann Arbor, MI 48103

	Description	Units	Quantity	Unit Cost	Extended Cost
1.0	GENERAL				
1.1	General Conditions (Max 10%)	LS	1		\$
1.2	Mobilization (Max 10%)	LS	1		\$
1.3	Mechanical Allowance	LS	1	\$25,000	\$25,000
1.4	Concrete Allowance	LS	1	\$25,000	\$25,000
2.0	DRAIN REPLACEMENT				
2.1	Replacement of Drain Piping	LS	1	\$	\$
2.2	Recoating of Existing Drain Castings	EA	11	\$	\$
3.0	FLOC DRIVE EQUIPMENT REPLACEMENT*	EA	4	\$	\$
BASE BID #1 TOTAL				\$	

*Include installation of, but not furnishing of, Owner Procured Stuffing Box Equipment.

The bid items identified above include the major items of work anticipated for the project. Detailed requirements for each element of the project are presented on the contract drawings.

Total Bid (Items 1 through 3) \$ _____

Total Bid (Written) _____

Proposed Work Start Date _____

Total bid amount shall be shown in both words and numbers. In case of discrepancies, the amount shown in words shall govern.

Signature of Bidder _____ Date _____

F. AUTHORIZED NEGOTIATOR / NEGOTIATIBLE ELEMENTS (ALTERNATES)

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

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

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

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

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

G. ATTACHMENTS

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

PROPOSAL EVALUATION

1. The selection committee will evaluate each proposal by the above-described criteria and point system. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested for evaluation. A proposal with all the requested information does not guarantee the proposing firm to be a candidate for an interview if interviews are selected to be held by the City. The committee may contact references to verify material submitted by the bidder.
2. The committee then will schedule interviews with the selected firms if necessary. The selected firms will be given the opportunity to discuss in more detail their qualifications, past experience, proposed work plan (if applicable) and pricing.

3. The interview should include the project team members expected to work on the project, but no more than six members total. The interview shall consist of a presentation of up to thirty minutes (or the length provided by the committee) by the bidder, including the person who will be the project manager on this contract, followed by approximately thirty minutes of questions and answers. Audiovisual aids may be used during the oral interviews. The committee may record the oral interviews.
4. The firms interviewed will then be re-evaluated by the above criteria and adjustments to scoring will be made as appropriate. After evaluation of the proposals, further negotiation with the selected firm may be pursued leading to the award of a contract by City Council, if suitable proposals are received.

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

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

Work to be done under this contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents.

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

PREPARATION OF PROPOSALS

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

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

ADDENDA

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

Each bidder should acknowledge in its proposal all addenda it has received on the General Declarations form provided in the Attachments section herein. The failure of a bidder to receive or acknowledge receipt of any addenda shall not relieve the bidder of the responsibility for complying with the terms thereof. The City will not be bound by oral responses to inquiries or written responses other than official written addenda.

SECTION IV - ATTACHMENTS

Attachment A – Sample Standard Contract

Attachment B – General Declarations

Attachment C - Legal Status of Bidder

Attachment D – Prevailing Wage Declaration of Compliance Form

Attachment E – Living Wage Declaration of Compliance Form

Attachment F – Living Wage Ordinance Poster

Attachment G – Vendor Conflict of Interest Disclosure Form

Attachment H – Non-Discrimination Ordinance Declaration of Compliance Form

Attachment I – Non-Discrimination Ordinance Poster

Attachment J – Sample Certified Payroll Report Template

ATTACHMENT A

SAMPLE STANDARD CONTRACT

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

CONTRACT

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

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

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

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **“RFP No. 25-48 – WTP FLOCCULATION 4/5 GALLERY IMPROVEMENTS”** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

Non-discrimination and Living Wage Declaration of Compliance Forms (if applicable)
Vendor Conflict of Interest Form
Prevailing Wage Declaration of Compliance Form (if applicable)
Bid Forms
Contract and Exhibits
Bonds

General Conditions
Standard Specifications
Detailed Specifications
Plans
Addenda

ARTICLE II - Definitions

Administering Service Area/Unit means Water Treatment Service Unit

Project means RFP No. 25-48 – WTP FLOCCULATION 4/5 GALLERY IMPROVEMENTS

Supervising Professional means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: **Emily Schlanderer, PE** whose job title is **WTP Engineer**.

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

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

ARTICLE III - Time of Completion

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

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

ARTICLE IV - The Contract Sum

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

_____ Dollars (\$_____)

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

ARTICLE V - Assignment

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

ARTICLE VI - Choice of Law

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

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

ARTICLE VII - Relationship of the Parties

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

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

ARTICLE VIII - Notice

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

ARTICLE IX - Indemnification

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

ARTICLE X - Entire Agreement

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties

to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

ARTICLE XI – Electronic Transactions

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

[Signatures on next page]

[INSERT CONTRACTOR NAME HERE]

CITY OF ANN ARBOR

By: _____

Name: _____

Title: _____

Date: _____

By: _____

Name: Milton Dohoney Jr.

Title: City Administrator

Date: _____

Approved as to substance:

By: _____

Name: Jordan Roberts

Title: Public Services Area
Administrator

Date: _____

Approved as to form:

By: _____

Name: Atleen Kaur

Title: City Attorney

Date: _____

(Signatures continue on following page)

CITY OF ANN ARBOR

By: _____

Name: _____

Title: Mayor _____

Date: _____

By: _____

Name: _____

Title: City Clerk _____

Date: _____

PERFORMANCE BOND

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

SIGNED AND SEALED this _____ day of _____, 202__.

(Name of Surety Company)

By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Atleen Kaur, City Attorney

(Name of Principal)

By _____
(Signature)

Its _____
(Title of Office)

Name and address of agent:

LABOR AND MATERIAL BOND

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

_____, for RFP No. _____; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.
- (5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

SIGNED AND SEALED this _____ day of _____, 202__

(Name of Surety Company)
By _____
(Signature)

Its _____
(Title of Office)

(Name of Principal)
By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Atleen Kaur, City Attorney

Name and address of agent:

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

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

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

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

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

Section 2 - Order of Completion

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

Section 3 - Familiarity with Work

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

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

Section 4 - Wage Requirements

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

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

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

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

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

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

Section 5 - Non-Discrimination

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

Section 6 - Materials, Appliances, Employees

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

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

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

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

Section 8 - Royalties and Patents

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

Section 9 - Permits and Regulations

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

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

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

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

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

employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

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

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

Section 11 - Inspection of Work

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

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

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

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

Section 12 - Superintendence

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

Section 13 - Changes in the Work

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be

executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

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

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

Section 14 - Extension of Time

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

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

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

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

Section 15 - Claims for Extra Cost

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

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

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

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

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

Section 16 - Progress Payments

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

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

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

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

Section 17 - Deductions for Uncorrected Work

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

Section 18 - Correction of Work Before Final Payment

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

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

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

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

Section 19 - Acceptance and Final Payment

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

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

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

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

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

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

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

Section 20 - Suspension of Work

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

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

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

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

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

Section 22 - Contractor's Right to Terminate Contract

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

Section 23 - City's Right To Do Work

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

Section 24 - Removal of Equipment and Supplies

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

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

Section 25 - Responsibility for Work and Warranties

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

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days.

The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

Section 26 - Partial Completion and Acceptance

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

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

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

Section 27 - Payments Withheld Prior to Final Acceptance of Work

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

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

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

Section 28 - Contractor's Insurance

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone

employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

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

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

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

\$1,000,000	Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
\$2,000,000	Per Project General Aggregate
\$1,000,000	Personal and Advertising Injury
\$2,000,000	Products and Completed Operations Aggregate, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

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

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

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.
- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

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

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

Section 30 - Damage Claims

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

Section 31 - Refusal to Obey Instructions

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

Section 32 - Assignment

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

Section 33 - Rights of Various Interests

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

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

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

Section 39 - Cleaning Up

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

Section 40 - Salvage

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

Section 41 - Night, Saturday or Sunday Work

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

Section 42 - Sales Taxes

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

Section 43

CONTRACTOR'S DECLARATION

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

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

Contractor

Date

By _____
(Signature)

Its _____
(Title of Office)

Past due invoices, if any, are listed below.

Section 44

CONTRACTOR'S AFFIDAVIT

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

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

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

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

Contractor

Date

By _____
(Signature)

Its _____
(Title of Office)

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

Notary Public

County, MI
My commission expires on:

STANDARD SPECIFICATIONS

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

Standard Specifications are available online:

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

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DETAILED SPECIFICATIONS

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SECTION 00 24 19 - PROCUREMENT CONTRACTS

The following procurement contract is attached for Bidder's reference only:

City of Ann Arbor WTP Flocculation 4/5 Gallery Improvements – Stuffing Box Equipment Procurement

END OF SECTION 00 24 19

SECTION 01 11 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work covered by the Contract Documents comprises of replacement of drain piping located at the City of Ann Arbor Water Plant, 919 Sunset Road, Ann Arbor, MI 48103 for the City of Ann Arbor Water Treatment Services Unit, Owner.
- B. The Work includes the following major items:
 - 1. Remove and replace drain piping, and associated hangers.
 - 2. Remove and recoat drain grates for reinstallation.
 - 3. Remove and replace horizontal flocculation equipment.
 - 4. Install Owner Procured Equipment.

1.3 TYPE OF CONTRACT

- A. Construct the Work of this Contract under a single lump sum Contract.

1.4 GENERAL

- A. Imperative Language: These Specifications (Divisions 01 through 49) are written in the imperative and abbreviated form. This imperative language of the technical specifications is directed at Contractor unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "shall be" and similar mandatory phrases by inference in the same manner as they are applied to notes on Drawings. The words "shall", "shall be" and similar mandatory phrases shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, fulfill (perform) all indicated requirements whether stated in the imperative or otherwise.
- B. Related Sections: Some Sections of these Specifications (Divisions 01 through 49) may include a paragraph titled "Related Sections". This paragraph is an aid to the Project Manual user and is not intended to include all Sections which may be related. It is Contractor's obligation to coordinate all Sections whether indicated under "Related Sections" or not.
- C. Reference to the General Conditions: In Divisions 01 through 49, a reference to the General Conditions includes by inference all amendments or supplements in the Supplementary Conditions.

1.5 OWNER FURNISHED MATERIAL

- A. Products furnished and paid for by Owner:
 - 1. Four stuffing box assemblies for Flocculation Basin 4.
- B. Owner's Responsibilities:
 - 1. Arrange for and deliver Shop Drawings and Product data to Contractor.
 - 2. Arrange and pay for Product delivery to Site.
 - 3. On delivery, inspect Products jointly with Contractor.
 - 4. Submit claims for transportation damage.
 - 5. Arrange for replacement of damaged, defective or missing items.
 - 6. Arrange for Manufacturer's warranties, inspections, and service.

- C. Contractor's Responsibilities:
 - 1. Coordinate delivery schedule of material to site with Owner and Supplier.
 - 2. Review Shop Drawings and Product data.
 - 3. Receive and unload Products at Site; inspect for completeness and damage jointly with Owner.
 - 4. Handle, store, install, and finish Products.
 - 5. Repair or replace items damaged by the Work of this Contract.
- D. Information on Owner furnished material:
 - 1. Is available to any Bidder upon request.

1.6 PROCUREMENT CONTRACTS TO BE ASSIGNED TO THE CONTRACTOR

- A. The Owner will have executed a Procurement Contract for the following Work:
 - 1. Furnishing and delivery of four stuffing box assemblies.
- B. Installation is by the Contractor.
- C. This contract will be assigned by the Owner to the Contractor.
- D. Copies of these Procurement Contracts are included in Section entitled "Procurement Contracts".
- E. Delivery and completion dates have been established in the contracts to be assigned. Coordinate the overall Project schedule with these dates.

1.7 WORK BY OWNER

- A. The following work will be completed by Owner:
 - 1. Drain Cistern and take out of service for access to drain piping.
 - 2. Drain Flocculation Basin 4 and take out of service.
- B. Coordinate the schedule of work by Owner with Owner.
- C. Cooperate with Owner.

1.8 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow for Owner occupancy and work by other contractors.
- B. Areas for Contractor's trailers, equipment, and material storage, and Contractor's employee parking, shall be as agreed by Owner prior to the start of construction.
- C. Coordinate use of premises under direction of the Owner.
- D. Where the Contract Documents identify certain site elements within the construction limits, such as sidewalks, drives, and streets, that must be kept open for public or the Owner's use during construction, the Contractor shall be responsible for protection and maintenance of such elements as well.
- E. Except in connection with the safety or protection of persons or the Work or property at the Site or adjacent thereto, all Work at sites other than the Water Treatment Plant shall be restricted to the following hours:
 - 1. Monday Through Friday (Except Legal Holidays): 7 a.m. to 7 p.m.
 - 2. Saturday, Sundays, or legal holidays with written approval of the Owner.

1.9 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy During Construction:
 - 1. The Owner will occupy or utilize premises during the entire period of construction, for conduct of the Owner's normal operations. Cooperate with the Owner to minimize conflict and to facilitate the Owner's operations.

2. All work shall be completed during a 6-week period beginning between March 23rd, 2026 and March 31st, 2026.
3. Flocculation Basin No. 4 and Cistern No. 2 will be drained by the Owner and will be offline through the 6-week course of the Work.
4. Contractor shall provide supplemental dewatering of Flocculation Basin No. 4 and Cistern No.2, of up to 12" of water, as needed to accommodate work.
5. Access to Abutting Properties, Facilities and Loading Docks: Provide at all times.
6. Access for Emergency Vehicles:
 - a. Provide at all times.
 - b. Provide at least one clear lane during nonwork periods.
7. Fire Hydrants: Provide access to at all times.
8. Do not block fire access routes.
9. Construct Work so as to not interfere with Owner operations in accordance with this Section.
 - a. Work in the Cistern must be completed during periods of 36 hours at a time. All Cistern shut-downs must be coordinated with Owner one week in advance.
10. Access to the site for chemical deliveries must be maintained at all times.
11. Limit parking for construction vehicles to an area designated by the Owner.

1.10 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Owner and Engineer. Provide 72 hours notice prior to the following:
 1. Contractor mobilization.
 2. Requiring Owner assistance for activities including, but not limited to:
 - a. Operating valves.
 - b. Bacteriological testing.
- B. Sequence Submittal: Submit a proposed sequence with appropriate times of starting and completion of tasks to Engineer for review.

1.11 SECURITY AND ACCESS

- A. The City of Ann Arbor's Water Treatment Plant is a limited access facility. The Contractor must comply with the City's operational provisions for security including, but not limited to:
 1. Provide proper identification of employees.
 2. Provide and use photos IDs for all Contractor personnel.
 3. Maintain daily sign-in log of personnel and visitors.
 4. Provide a list of personnel and vehicles onsite.
 5. Maintain a daily log of vehicle license plate numbers onsite.
 6. Allow Owner to conduct background checks on Contractor's personnel upon request.
 7. Notify the plant in advance of material deliveries to the site, including delivery contents. Owner will NOT accept deliveries on behalf of the Contractor.

PART 2 - PRODUCTS

2.1 OTHER MATERIALS

- A. General: All other materials which are not specified herein and are not indicated on the Drawings, but are required for proper and complete performance of the Work.
- B. Procedure:
 1. Select new, first quality material.
 2. Obtain Engineer's review.
 3. Provide and install.

PART 3 - EXECUTION

3.1 CONTROL OF WATER POLLUTION

A. General Requirements:

1. The Contractor shall conduct their work in such manner as to prevent the entry of fuels, oils, bituminous materials, chemical, sewage, or other harmful materials into the City's water supply or on to the soil.
2. The Contractor shall take all necessary precautions to prevent the entry of these harmful materials including the use of tarps, planks, protective trusses, or scaffolding systems, or other Owner and Engineer approved methods.
3. Any vehicles or equipment with oil, fuel, or other fluid leaks shall not be allowed on the Site and shall be immediately removed upon detection.

END OF SECTION 01 11 00

SECTION 01 21 13 – CASH ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section provides for cash allowances which are included in the Contract Price.
- B. Related Sections include Sections in Divisions 01 through 49, as identified below, provide additional information on what is covered by the respective allowances.

1.3 SCHEDULE OF ALLOWANCES

- A. Include in the Contract Price the following amounts:
 - 1. The amount of \$25,000 for miscellaneous mechanical scope changes.
 - 2. The amount of \$25,000 for miscellaneous concrete repair.

1.4 CASH ALLOWANCES

- A. Costs Associated With Allowances:
 - 1. All costs, associated with allowances, which are not specifically defined in the Schedule of Allowances, paragraph 1.3 of this Section shall be included in the Base Bid.
 - 2. Associated costs not specifically defined in the Schedule of Allowances may include, but are not necessarily limited to:
 - a. Unloading.
 - b. Handling on the Site.
 - c. Labor.
 - d. Installation.
 - e. Overhead.
 - f. Profit.
- B. Allowances shall only be used to pay for additional and necessary work as approved by the Owner.

1.5 ADJUSTMENT OF COSTS

- A. Change Order: To adjust Contract Price if final cost is different from allowance.
- B. Documentation:
 - 1. Submit:
 - a. Within 60 days after completion of the work under the allowance.
 - b. Documentation of actual costs.
 - 2. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.
 - 3. At Contract closeout, reflect all approved changes in Contract amounts in the final statement of accounting.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 21 13

SECTION 01 22 00 - UNIT PRICES - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes descriptions of the method of measurement and the basis of payment for Unit Price Work under this Contract.
- B. Basis of Contract Payments:
 - 1. Final Contract Price shall be determined by actual quantities installed at unit prices stated in Contractor's Bid.
 - 2. Engineer shall determine actual as-built quantities.
 - 3. All work identified on the Drawings, but not included as a Bid item shall be considered incidental to construction and not paid for directly, except Work that would be considered additional Work due to unforeseen conditions.
 - 4. Unit price payments for individual items shall include everything necessary for such item to function as intended in the system.
 - 5. Owner reserves the right to increase, decrease or eliminate any quantities for items listed in Contractor's Bid or which become a part of the Contract Documents.
- C. Items included as incidental to Unit Prices for systems and appurtenances. Unless there is a specific pay item identified, the unit price payment shall include, but not be limited to:
 - 1. Clear, excavate, trench, bedding, trench backfill, compaction, disposal of items for clearing and unsuitable or excess excavated materials.
 - 2. Drainage of excavations including by-pass pumping of sewers if necessary.
 - 3. Temporary sheeting, bracing and shoring of excavations.
 - 4. Support, relocation, replacement, connection or reconnection of existing pipelines and utilities.
 - 5. Cleanup and surface restoration.
 - 6. Water service repair.
 - 7. Sewer lead repair.
 - 8. Bulk head of pipes to be abandoned.
 - 9. Removal of pipes, valves, structures and appurtenances located within the excavation limits of new utilities whether identified on the removal Drawings or not.
 - 10. Coordination of mail delivery and refuse removal with residents, post office, and refuse collectors.
 - 11. Dewatering for the installation of sanitary sewer, water main and storm sewer.
 - 12. Support of utility poles and existing underground utilities during excavation and installation of sanitary sewer, water main and storm sewer.
 - 13. Remove, salvage, and replace street signs.
 - 14. Remove and dispense of trees less than 6-inches in diameter.
 - 15. Temporary enclosures and sources of heat and humidity control to allow construction activity to proceed during cold weather and adverse conditions.
 - 16. Testing of concrete repair materials.

1.3 GENERAL

- A. Item No. 1.1 – General Conditions, Max 10% of Individual Base Bid:
 - 1. Includes:
 - a. General Overhead.
 - b. Project Management.
 - c. Provide insurance, bonds, and other costs associated with the project in general and not included in other pay items.
 - d. All required submittals.

2. Unit of Measure:
 - a. Lump sum.
 - b. 50% payment will be made after 5% of the original contract amount is earned.
 - c. Final 50% payment will be made after 25% of the contract amount is earned.
- B. Item No. 1.2 – Mobilization, Max 10% of Individual Base Bid:
 1. Includes:
 - a. Preparatory work and expenses incurred prior to beginning work onsite.
 - b. Transport materials, personnel, and equipment to the Site.
 - c. Establish temporary onsite construction facilities.
 - d. Where applicable, establish, maintain and remove all temporary and permanent soil erosion control measures as indicated on the Drawings or as required by local enforcement authorities.
 2. Unit of Measure:
 - a. Lump sum.
 - b. 50% payment will be made after 5% of the original contract amount is earned.
 - c. Final 50% payment will be made after 25% of the contract amount is earned.
- C. Item No. 1.3 – Mechanical Allowance:
 1. Includes cash allowance for miscellaneous mechanical scope changes.
 2. Unit of Measure: Lump Sum.
- D. Item No. 1.4 – Concrete Allowance:
 1. Includes cash allowance for miscellaneous concrete repairs, in accordance with Division 03 "Rehabilitation of Cast-In-Place Concrete".
 2. Unit of Measure: Lump Sum.
- E. Item No. 2.1 – Replacement of Drain Piping:
 1. Includes the replacement of the following in accordance with Division 02 Section "Selective Demolition.", and Division 40 "Process Piping".
 - a. Drain piping.
 - b. Pipe supports and associated hardware.
 2. Unit of Measure: Lump Sum.
- F. Item No. 2.2 – Recoating of Existing Drain Castings:
 1. Includes the preparation and recoating of the existing drain castings in accordance with Division 09 Section "Painting."
 2. Unit of Measure: Unit Price.
- G. Item No. 3.0 – Floc Drive Replacement:
 1. Includes the replacement of floc drive equipment such as shafts, bearings, chains, and sprockets, in accordance with Division 46 Section "Flocculation Equipment."
 2. Includes the installation of, but not the furnishing of, Owner Procured Stuffing Box Equipment, in accordance with Division 00 Section "Procurement Contracts" and Division 46 Section "Flocculation Equipment."
 3. Unit of Measure: Unit Price.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 22 00

SECTION 01 25 13 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the administration of substitutions and Product options.

1.3 SUBMITTALS

- A. List of all products proposed for installation:
 - 1. Submit 1 electronic copy within 30 days after the Effective Date of Agreement unless otherwise indicated elsewhere in the Contract Documents.
 - 2. Tabulate the list by each Specification Section.

1.4 CONTRACTOR'S OPTIONS

- A. Products specified only by reference standards or by description:
 - 1. Select any Product meeting the standards or description by any Supplier unless otherwise required elsewhere in the Contract Documents.
 - 2. Submit for Engineer's review:
 - a. Name and address of Supplier.
 - b. Trade name.
 - c. Model or catalog designation.
 - d. Manufacturer's data including:
 - 1) Performance and test data
 - 2) Compliance with reference standards.
- B. Products specified by naming one or more suppliers without an "or equal" clause:
 - 1. Use specified Product of one of the Suppliers named.
 - 2. No substitutions.
- C. Products specified by naming one or more suppliers with an "or equal" clause:
 - 1. Indicates the option of selecting equivalent Products by stating "or equal" after the specified Suppliers.
 - 2. Engineer may waive some or all of the requirements specified for substitutions if, at Engineer's sole discretion, the proposed equivalent Product is considered an "or equal".
 - 3. If, at Engineer's sole discretion, the proposed equivalent Product does not qualify as an "or equal", it will be considered as a proposed substitute and a substitution request submittal will be required.

1.5 SUBSTITUTIONS

- A. Substitutions after the effective date of agreement:
 - 1. Within 30 days after the Effective Date of Agreement.
 - 2. Engineer will consider formal requests for substitution of Products in place of those specified unless otherwise prohibited elsewhere in the Contract Documents.
- B. Substitution Request Submittals: Submit 5 copies of the request for substitution including the following:
 - 1. Complete data substantiating compliance of the proposed substitution with the Contract Documents.
 - 2. For Products:
 - a. Names and addresses of Manufacturer and Supplier.
 - b. Product identification.

- c. Manufacturer's literature, including:
 - 1) Product description.
 - 2) Performance and test data
 - 3) Reference standards.
 - d. Samples.
 - e. Name and address of similar projects on which the Product was used and date of installation.
 - 3. For Construction Methods:
 - a. Detailed description of the proposed method.
 - b. Drawings illustrating methods.
 - 4. Itemized comparison of proposed substitution with Product or method specified.
 - 5. Data relating to changes in the construction schedule.
 - 6. Accurate cost data on the substitution and comparison with the Product or method specified.
 - 7. Changes to the Work which would be caused by the substitution.
- C. Contractor's Responsibilities: In making a request for a substitution, Contractor represents:
- 1. Contractor has personally investigated the proposed Product or method and determined that it is equal or superior in all respects to that which is specified.
 - 2. Contractor will provide the same guarantee for the substitution as for the Product or method specified.
 - 3. Contractor will coordinate installation of the accepted substitution into the Work making such changes as may be required for the Work to be completed in all respects.
 - 4. Contractor waives all claims for additional cost related to the substitution which consequently become apparent.
 - 5. Cost data is complete and includes all related costs under Contractor's contract, but excludes costs under separate contracts and Engineer's redesign costs.
- D. Substitutions Not Considered: Substitutions will not be considered if:
- 1. They are indicated or implied on Shop Drawings or Product data submittals without formal request submitted in accordance with this Section.
 - 2. Acceptance will require substantial revision of the Contract Documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 25 13

SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for modifying the Contract Documents.

1.3 BULLETIN

- A. Procedures: As indicated on the form following this Section.
- B. If Bulletin is accepted, Owner may issue one or more Change Orders for some or all items listed.

1.4 FIELD ORDER

- A. Changes in Contract Price or Contract Times not permitted by use of Field Orders.
- B. Format:
 - 1. May take form of any written communication mutually acceptable to Engineer and Contractor, including, but not necessarily limited to:
 - a. Letter or memo.
 - b. Email correspondence.
 - c. Hand drawn or computer generated sketch.
- C. Procedures: Refer to the General Conditions.

1.5 WORK CHANGE DIRECTIVE

- A. Procedures: Refer to the General Conditions.

1.6 CHANGE ORDER

- A. Procedures: Refer to the General Conditions and use Owner-provided form.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 01 26 00

SECTION 01 26 13 – REQUESTS FOR INFORMATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for Contractor to give notice of conflicts, errors, ambiguities, or discrepancies in the Contract Documents.

1.3 DEFINITIONS

- A. Abbreviation: Request for Information (RFI).

1.4 REQUESTS FOR INFORMATION

- A. Format:
 - 1. Use the enclosed RFI form or, at Contractor's option, generate form.
 - 2. Minimum required content of Contractor's RFI form:
 - a. Project name.
 - b. Name and address of Contractor.
 - c. RFI number.
 - d. RFI date.
 - e. Name of initiator.
 - f. Complete written request, with sketches as required.
 - g. Signature of initiator.
 - h. Space for written response by Engineer, with signature and date of Engineer's representative.
- B. Procedures:
 - 1. Maintain a log of RFIs, including the RFI date and the date of the response.
 - 2. Allow at least 15 full working days for Engineer's response following Engineer's receipt of RFI.
 - 3. Submit written justification for shorter response time.
 - 4. Do not submit RFIs for information already included in the Contract Documents.
 - 5. Illegitimate RFIs may be cause for deductions in the Contract amount. See the Supplementary Conditions.
 - 6. RFIs submitted directly by subcontractors or vendors will be rejected.
 - 7. Changes in Contract Price or Contract Times not permitted within an RFI form.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Attached is the following form:
 - 1. Request for Information.

REQUEST FOR INFORMATION
PAGE 1 OF 1

CONTRACT FOR:	PROJECT NO.:
OWNER:	
CONTRACTOR:	
ENGINEER:	
THE CONTRACTOR SHALL COMPLY WITH THE PROCEDURES IN DIVISION 01 SECTION "REQUESTS FOR INFORMATION."	

RFI No.: _____

Fishbeck Project Manager: _____

REQUEST		
RFI From:	Signature:	Date:

RESPONSE		
Response From:	Signature:	Date:

END OF SECTION 01 26 13

SECTION 01 29 16 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes submittal to the Owner's designee of Applications for Payment and supporting documentation as specified herein.

1.3 SUBMITTALS

- A. Application for Payment: Submit 1 electronic copy on attached form.
- B. An incomplete or incorrect Application for Payment will constitute reason for refusing to recommend payment as indicated in Article 16 of the General Conditions.

1.4 FORMS

- A. Copies of the forms to be used for the above requirements are attached and include the following:
 - 1. Application for Payment.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

APPLICATION AND RECOMMENDATION FOR PAYMENT
PAGE 1 OF 3

TO: City of Ann Arbor
In Care of: Fishbeck
1515 Arboretum Drive, SE
Grand Rapids, MI 49546

FROM (Contractor): _____

Application No: _____
Period From: _____
To: _____

Project: _____
Fishbeck Project Number: _____

APPLICATION FOR PAYMENT:

Application for Payment is made, as indicated below, in connection with the Contract. Schedule of Values sheet is attached as page 3 of 3.

1. Original Contract Price \$ _____
2. Net change by Change Orders \$ _____
3. Current Contract Price (1 plus 2) \$ _____
4. Total Completed and Stored to Date (Column F) \$ _____
5. Retainage (Per Agreement) _____% of Work Completed: \$ _____
 _____% of Stored Material: \$ _____
 Total Retainage (Equal to Column H) \$ _____
6. Amount Eligible to Date (4 minus 5) \$ _____
7. Less Previous Payments \$ _____
8. Amount Due This Application (6 minus 7) \$ _____
9. Balance to Finish, Plus Retainage (Column G plus 5) \$ _____

CHANGE ORDER SUMMARY:

Change Orders Approved by Owner	ADDITIONS	DEDUCTIONS
Change Order No. 1 Change Order No. 2 Change Order No. 3 Change Order No. 4 Change Order No. 5		
Net Change by Change Orders		

APPLICATION AND RECOMMENDATION FOR PAYMENT
PAGE 2 OF 3

CONTRACTOR'S CERTIFICATION:

The undersigned Contractor certifies that to the best of its knowledge (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Dated _____, 20____

Contractor

By _____
(Signature)

Name and Title of Signatory

ENGINEER'S RECOMMENDATION:

To: City of Ann Arbor

In accordance with the Contract, the undersigned recommends payment to Contractor.

AMOUNT RECOMMENDED:\$_____
(Attach explanation if amount recommended differs from the amount applied for.)

ENGINEER: Fishbeck

Dated _____, 20____

By _____
(Signature)

Name and Title of Signatory

This Recommendation is not negotiable. The AMOUNT RECOMMENDED is payable only to Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of Owner or Contractor under this Contract.

This recommendation for payment is based on a review of the Work performed as compared to the amount of the application. This recommendation does not imply that Engineer is reviewing construction lien documents nor does it imply that Engineer is acting as a guarantor of the property. Any review of construction lien documents by Engineer is for information purposes only.

Schedule of Values

In tabulations above, amounts are stated to the nearest dollar.
Attach additional copies of Page 3 as required. Total on the last page.

END OF SECTION 01 29 16

SECTION 01 29 73 – SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes preparation and submittal of a schedule of values.

1.3 GENERAL

- A. Timing of Submittal: Submit to Engineer a schedule of values allocated to the various portions of the Work, within 10 days after the Effective Date of the Agreement.
- B. Supporting Data: Upon request of Engineer, support the values with data which will substantiate their correctness.
- C. Use of Schedule: The schedule of values, unless objected to by Engineer, shall be used only as the basis for the Contractor's Applications for Payment.

1.4 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Form and Identification:
 - 1. Type schedule on 8-1/2-inch x 11-inch white paper.
 - 2. Contractor's standard forms and automated printout may be used.
 - 3. Identify Schedule with:
 - a. Title of Project and location.
 - b. Engineer.
 - c. Project number.
 - d. Name and address of Contractor.
 - e. Contract designation.
 - f. Date of submission.
- B. Detail: Schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- C. Format:
 - 1. Follow the Table of Contents of this Project Manual as the format for listing component items.
 - 2. Identify each line item with the number and title of the respective major Section of the Specifications.
- D. Subvalues: For each major line item list subvalues of major Products or operations under the item.
- E. Allowances:
 - 1. Include in each line item the amount of the respective allowances specified in Division 01 Section "Cash Allowances."
 - 2. For unit cost allowances, give quantities measured from Contract Documents multiplied by the unit cost equal to the total cost for the item.
- F. Change Orders: For each Application for Payment, revise schedule to list Change Orders.

- G. For the various portions of the Work:
1. Each item shall include a directly proportional amount of Contractor's overhead and profit.
 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid.
 - b. The total installed value.

- H. The sum of all values listed in the schedule shall equal the total Contract Price.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 29 73

SECTION 01 31 13 – PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for coordination of the Work.

1.3 GENERAL COORDINATION

- A. Coordinate scheduling, submittals and work of the various Sections of the Specifications to:
 - 1. Ensure efficient and orderly sequence of installation of interdependent construction elements.
 - 2. Provide for items to be installed later.
- B. Interrelated Operating Equipment:
 - 1. Verify that characteristics of elements are compatible.
 - 2. Coordinate work of various sections having interdependent responsibilities for:
 - a. Installation.
 - b. Connection.
 - c. Placing in service.
- C. Space Coordination:
 - 1. General: Coordinate the layout and space requirements of all trades.
 - 2. Drawings:
 - a. The Drawings of the following system are diagrammatic and not to scale. Each trade shall use required offsets, bends, and special connections, which are not necessarily indicated on the Drawings, but which are required for proper installation.
 - b. Follow the routing diagrammatically indicated in the Drawings as closely as practical.
 - 3. Space Utilization and Accessibility:
 - a. Utilize space efficiently to maximize accessibility for:
 - 1) Other systems.
 - 2) Maintenance.
 - 3) Repairs.
 - 4. Layout: Layout systems parallel with lines of the building.
 - 5. Shop Drawings: Carefully review and revise the Shop Drawings from the various trades to ensure that space requirements for all systems are coordinated.
 - 6. Additional Payments: No additional payments will be made by Owner due to location adjustments of systems or installations of offsets, bends, and special connectors necessary for proper installation.
- D. In finished areas, except as otherwise indicated:
 - 1. Conceal pipes, ducts and wiring in the construction.
 - 2. Coordinate locations of fixtures and outlets with finish elements.
- E. WTP Coordination: Coordinate scheduling and work with other construction projects at the WTP.

1.4 ACCEPTANCE OF CONDITIONS

- A. Inspection:
 - 1. Prior to performing any work under a section:
 - a. Carefully inspect the installed work.
 - b. Verify that all such work is complete to the point where the work under that Section may properly commence.
 - c. Starting of work indicates acceptance of the condition of components to which the work will be applied.
 - 2. Verify that all materials, equipment and Products to be installed under a Section may be installed in strict accordance with the original design and reviewed Shop Drawings.
- B. Discrepancies:
 - 1. Resolve all discrepancies and conflicts between the trades.
 - 2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

1.5 SLEEVES AND INSERTS

- A. Function: For pipes, conduits and similar items in forms, walls, partitions and floors.
- B. Trades: Furnish required sleeves and inserts.
- C. Place sleeve and inserts in ample time so as to not delay work.
- D. Except as approved by Engineer, do not place sleeves vertically through:
 - 1. Beams.
 - 2. Girders.
 - 3. Similar construction.
- E. Maintain in proper position during subsequent work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 31 13

SECTION 01 31 19 – PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes scheduling and administering of preconstruction and progress meetings.
- B. Scheduling and Administration of Meetings:
 - 1. Responsibility:
 - a. Preconstruction Meeting: Engineer.
 - b. Progress Meetings: Contractor.
 - 2. Procedures:
 - a. Prepare agenda.
 - b. Distribute written notice and agendas of meetings 4 days in advance of the meeting date.
 - c. Make physical arrangements for the meetings.
 - d. Preside at meetings.
 - e. Record minutes and include significant proceedings and decisions.
 - f. Distribute copies of the minutes within 4 days after meetings to:
 - 1) Participants.
 - 2) Others affected by proceedings.

1.3 PRECONSTRUCTION MEETING

- A. Schedule: Preconstruction meeting will be scheduled by Engineer:
 - 1. Within 20 days after the Effective Date of Agreement.
 - 2. Before starting the Work at the Site.
- B. Attendance: Representatives of the following parties are to be in attendance at the meeting:
 - 1. Owner.
 - 2. Engineer.
 - 3. Contractor.
 - 4. Major Subcontractors.
 - 5. Governmental or regulatory agencies when appropriate.

1.4 PROGRESS MEETINGS

- A. Types of Progress Meetings:
 - 1. Regular.
 - 2. Called.
- B. Schedule meetings as follows unless otherwise approved by Engineer:
 - 1. Regular: Monthly.
 - 2. Called: As the progress of the Work dictates.
 - 3. Preinstallation: At least 5 working days prior to start of installation.
- C. Location: Hold meetings at the City of Ann Arbor WTP or as indicated in the notice.

- D. Attendance: Representatives of the following parties are to be in attendance at the meeting:
1. Engineer.
 2. Contractor.
 3. Major Subcontractors as pertinent to the agenda.
 4. Owner's representative as appropriate.
 5. Governmental or other regulatory agencies as appropriate.
- E. Minimum Agenda: The minimum agenda for progress meetings shall consist of the following:
1. Review and approve minutes of previous meetings.
 2. Review progress of the Work since the previous meeting.
 3. Note field observations, problems and decisions.
 4. Identify problems which impede planned progress.
 5. Review offsite fabrication problems.
 6. Develop corrective measures and procedures to regain plan schedule.
 7. Revise construction schedule as indicated.
 8. Review submittal schedules; expedite as required to maintain schedule.
 9. Maintenance of quality and work standards.
 10. Review changes proposed by Owner for their effect on the construction schedule and completion date.
 11. Identify all claims and potential claims.
 12. Pending changes and substitutions.
 13. Complete other current business.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 31 19

SECTION 01 32 16 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the preparation, furnishing, distribution and periodic revision of construction progress schedules.

PART 2 - PRODUCTS

2.1 FORM OF SCHEDULE

- A. Preparation:
 - 1. Prepare in the form of a horizontal bar chart, CPM network, or other form as previously approved by Engineer.
 - 2. Provide a separate horizontal bar column or path for each trade or operation.
 - 3. Prepare the schedule in the chronological order of the beginning of each item of work.
 - 4. Identify each column or path by:
 - a. Major Specification Section number.
 - b. Distinct graphic delineation.
 - 5. Use a horizontal time scale and identify the first work day of each week.
 - 6. Allow space for updating.
- B. Size: The schedule sheets shall be 11 inches x 17 inches unless otherwise approved by Engineer.

2.2 CONTENT OF SCHEDULES

- A. Construction Sequence:
 - 1. Provide a complete sequence of construction by activity and Milestones.
 - 2. For Shop Drawings, project data and Samples indicate the following:
 - a. Submittal dates.
 - b. Dates review copies will be required.
 - 3. Show decision dates for selection of finishes.
 - 4. Show Product procurement and delivery dates.
 - 5. Show dates for beginning and completion of each element of construction.
- B. Percentage Completion: Show the projected percentage of completion for each item of work as of the first day of each month.
- C. Subschedules:
 - 1. Provide separate subschedules showing submittals, review times, procurement schedules and delivery days.
 - 2. Provide subschedules to define critical portions of the entire schedule.

PART 3 - EXECUTION

3.1 SUBMITTALS

- A. Preliminary Schedule:
 - 1. Submit the preliminary schedule within 10 days after the Effective Date of Agreement.
 - 2. Engineer will review schedules and will return the reviewed copy within 15 days after receipt.

3. If required, resubmit within 7 days after receipt of a returned review copy.
4. Meet with Engineer at least 10 days prior to the submission of the first Application for Payment to review the schedule.

B. Periodic Adjustment: Monthly, submit a revised schedule accurately depicting adjustments and progress to the first day of each month.

C. Number of Copies: Submit the number of copies required by Contractor, plus 4 copies to be retained by Engineer.

3.2 DISTRIBUTION

A. Reviewed Schedules: Distribute copies of the reviewed schedules to the following:

1. Job Site file.
2. Subcontractors.
3. Other concerned parties.

B. Instructions to Recipients: Instruct recipients to report all inability to comply with the schedule, and provide detailed explanations with suggested remedies.

3.3 ADJUSTMENT OF PROGRESS SCHEDULE

A. Changes: Show all changes occurring since previous submission of the schedule.

B. Progress: Indicate progress of each activity and show completion dates.

C. Other Items:

1. Include major changes in scope.
2. Include activities modified since previous updating.
3. Include revised projections due to changes.
4. Include other identifiable changes.

D. Narrative Report: Provide a narrative report including:

1. A discussion of problem areas including current and anticipated delay factors and their impact.
2. Direct action taken, or proposed, and its effect.
3. A description of revisions including:
 - a. Their effect on the schedule due to change of scope.
 - b. Revisions in duration of activities.
 - c. Other changes that may affect the schedule.
4. The status of completion of Milestones.

END OF SECTION 01 32 16

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for the submittal of Shop Drawings, Product Data, Samples, Operation and Maintenance Manuals, and other information.
- B. Related Sections include pertinent Sections of these Specifications for the individual Submittals required.

1.3 DEFINITIONS

- A. Submittal: Information sent by Contractor to convey information about systems, equipment, materials, products, and administrative matters for the Work.
- B. Resubmittal: Submittal sent for review a second or further time.
- C. Product Data: Illustrations, standard schedules, diagrams, performance charts, instructions, brochures, or manufacturer's literature that describe the physical size, appearance, and other characteristics of materials or equipment for a portion of the Work.
- D. Shop Drawings: Drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- E. Action Submittals: Submittals that require Engineer's response.
- F. Informational Submittals: Submittals that do not require Engineer's response.
- G. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format. All PDF files shall be searchable.

1.4 SUBMITTAL PROCEDURES

- A. Submittal Schedule:
 - 1. Prepare and submit a Submittal schedule that identifies the following for each Submittal:
 - a. Submittal number
 - b. Submittal description
 - c. Projected date Submittal will be submitted.
 - 2. An electronic copy (MS Excel file) of a blank Submittal schedule, in the preferred format, will be furnished by Engineer at the preconstruction meeting.
 - 3. Submittal Numbers:
 - a. Use the applicable Specification Section number followed by a decimal point and then a sequential number (e.g., 06 10 00.1). Where a Submittal is required via a Drawing (instead of a Specification Section), use the applicable Drawing Number followed by a decimal point and then a sequential number (e.g., M501.1.1).
 - b. Resubmittals shall include a letter suffix after another decimal point (e.g., 06 10 00.1.A).
 - c. Submittals that are not numbered correctly may be rejected.

- B. Delivery Method:
1. Web-Based Collaboration and Document Sharing System:
 - a. A web-based collaboration and document sharing system may be utilized at Contractor's, Owner's, or Engineer's option.
 - b. Use of such a system will be discussed during the preconstruction meeting.
 - c. All parties must agree on use of a web-based collaboration and document sharing system.
 - d. Training and licensing will be provided for all parties by the party suggesting use of a web-based collaboration and document sharing system.
 2. Where a web-based collaboration and document sharing system is not utilized, Submittals may be delivered as paper copies or electronic files at Contractor's option; except for Operation and Maintenance Manuals, which shall be delivered as specified herein.
 3. Advise Engineer and Owner of delivery method to be used at the preconstruction meeting.
 4. Where Submittals include information that is intended to be printed on sheets larger than 11 inches x 17 inches, or where scale or drawing size are critical for proper review, submit 2 paper copies for review.
 5. Paper Copies:
 - a. Unless indicated otherwise, submit 2 copies of each Submittal.
 - b. One copy of each Action Submittal will be returned to Contractor.
 - c. Extra copies submitted by Contractor will be discarded.
 6. Electronic Files:
 - a. Unless indicated otherwise, submit 1 copy of each Submittal in PDF format.
 - b. Scanned Submittals shall be produced in such a way as to not compromise the graphic quality or accuracy of scale, where applicable; and text shall be searchable.
 - c. One copy of each Action Submittal will be returned to Contractor.
 - d. Transmit Submittals via electronic mail (e-mail) or web-based collaboration and document sharing system, where used. Submittals that are transmitted electronically will be returned electronically.
 7. Transmit Submittals to party and address identified by Engineer at preconstruction meeting.
- C. Coordination and Timing: Coordinate preparation and processing of Submittals with performance of construction activities. Contractor is responsible for cost of delays caused by lack of coordination or tardiness of Submittals. Incomplete Submittals will be rejected.
1. Coordinate each Submittal with fabrication, purchasing, testing, delivery, other Submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of Submittals for related parts of the Work so processing will not be delayed because of need to review Submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
- D. Processing Time: Allow 15 full working days for Engineer to review each Submittal, including Resubmittals. Time for review shall commence on Engineer's receipt of Submittal. No extension of the Contract Time will be authorized because of failure to transmit Submittals enough in advance of the Work to permit processing, including Resubmittals. Engineer will advise Contractor when a Submittal being processed must be delayed for coordination.
- E. Identification: Place a permanent label on each Submittal or generate a separate cover sheet.
1. Indicate name of firm or entity that prepared Submittal.
 2. Provide space to record Contractor's review and approval markings and action taken by Engineer.
 3. Include the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of Subcontractor(s).
 - f. Name and address of Supplier(s).
 - g. Name of Manufacturer.
 - h. Submittal number, including revision identifier.
 - i. Drawing number and detail references, as applicable.
 - j. Location(s) where product is to be installed, as applicable.
 - k. Other necessary identification.

- F. Deviations: Encircle or otherwise specifically identify deviations from the Contract Documents on Submittals. Submittals that include deviations that are not identified may be rejected. Engineer may or may not consider deviations. Deviations are not substitutions. Refer to Division 01 Section "Product Substitution Procedures" for procedures regarding requests for substitutions.
- G. Transmittal: Package each Submittal individually and appropriately for transmittal and handling. Transmit each Submittal using a transmittal form. Engineer will reject Submittal(s) received from sources other than Contractor.
- H. Resubmittals: Make Resubmittals in same form and number of copies as initial Submittal.
 - 1. Note date and content of previous Submittal.
 - 2. Clearly identify additions and revisions.
 - 3. Resubmit Submittals until they are marked, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted."
- I. Distribution: Furnish copies of Submittals with mark indicating, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted," to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.
- J. Use for Construction: Unless otherwise indicated by Engineer, use only Submittals with mark indicating, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted."

1.5 CONTRACTOR'S USE OF ENGINEER'S ELECTRONIC DRAWING FILES

- A. At Contractor's written request, copies of Engineer's electronic Drawing files may be provided to Contractor for Contractor's use in connection with Project, including Submittal preparation. Electronic files may be furnished by Engineer for the convenience of the Contractor. Conclusions or information obtained or derived from such electronic files will be at the Contractor's sole risk. Materials furnished by Engineer that may be relied upon are limited to printed Contract Documents.
- B. When Contractor uses Engineer's electronic Drawing files to facilitate Submittal preparation, prepare Submittals to be project specific. Submittals that are not project specific, including Engineer's Drawing files submitted on a new title block, will be rejected.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit project specific Action Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible. Include a table of contents or index with each Submittal. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.
- B. Product Data: Collect information into a single Submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each Submittal to indicate which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Color charts as required by individual Specification Sections.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.

- k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
 - 4. Submit Product Data before or concurrent with Samples.
 - 5. Maintain copy of returned Submittal for Project records.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale where appropriate. Scale shall be sufficiently large to indicate pertinent features of the item and its method of connection to the Work.
 - 1. Preparation: Fully illustrate requirements of the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Colors and materials as applicable.
 - e. Roughing-in and setting diagrams.
 - f. Wiring diagrams showing field-installed wiring, including power, signal, control, and communication wiring. Differentiate between Manufacturer-installed and field-installed wiring.
 - g. Manufacturing instructions.
 - h. Templates and patterns.
 - i. Schedules.
 - j. Calculations.
 - k. Compliance with specified standards.
 - l. Notation of coordination requirements.
 - m. Notation of dimensions established by field measurement.
 - n. Relationship to adjoining construction clearly indicated.
 - 2. Sheet Size: Submit Shop Drawings on sheets at least 8-1/2 inches x 11 inches but no larger than 24 inches x 36 inches.
 - 3. Maintain copy of returned Submittal for Project records.
- D. Operation and Maintenance Manuals:
 - 1. General:
 - a. Where manuals are required to be submitted covering items included in the Work, prepare such manuals in durable plastic binders approximately 8-1/2 inches x 11 inches in size and with at least the following:
 - 1) Identification on, or readable through, the front cover stating general nature of the manual.
 - 2) Include a table of contents or index with each Submittal, near the front of the manual. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.
 - 3) Complete instructions regarding operation and maintenance of equipment involved, including:
 - a) Equipment function, normal operating characteristics, and limiting conditions.
 - b) Assembly, installation, alignment, adjustment, and checking instructions.
 - c) Operating instructions for start-up, routine and normal operating, regulation and control, shutdown, and emergency conditions.
 - d) Maintenance instructions, including lubrication requirements where applicable.
 - e) Guide to "troubleshooting".
 - f) Parts lists and predicted life of parts subject to wear.
 - g) Project specific outline and cross sections, assembly drawings, engineering data, and wiring diagrams. Wiring diagrams shall reflect final, as-installed conditions and include wire numbers.
 - h) Test data and performance curves.
 - 4) Complete nomenclature of all replaceable parts, their part numbers, current costs, and name and address of nearest vendor of parts.
 - 5) Copies of guarantees and warranties issued.
 - 6) Copies of the reviewed Submittals.
 - 7) Copies of data concerning changes made during construction.
 - 2. Extraneous Data: Where contents of the manuals include Manufacturer's catalog pages, clearly indicate the precise items included in this installation and delete all Manufacturers' data with which this installation is not concerned. Do not use highlighting that would not be reproducible.

3. Number of Copies Required: Unless otherwise specifically directed by Engineer, or stipulated in the pertinent Section of these Specifications:
 - a. For review, submit 1 paper and 1 electronic copy.
 - b. For record, deliver 4 paper and 1 electronic copies to Engineer.
4. Schedule delivery of record copies of operation and maintenance manuals at least 14 days prior to startup of respective equipment, unless otherwise specified.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible. Include a table of contents or index with each Submittal. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.
- B. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects/engineers and owners, and other information specified.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on Manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by Manufacturer for this Project.
- F. Manufacturer Certificates: Prepare written statements on Manufacturer's letterhead certifying that Manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G. Product Certificates: Prepare written statements on Manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. Material Certificates: Prepare written statements on Manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. Product Test Reports: Prepare written reports indicating current product produced by Manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by Manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.
 6. Test procedures and results.
 7. Limitations of use.

- L. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- M. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- N. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- O. Manufacturer's Instructions: Prepare written or published information that documents Manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of Manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- P. Manufacturer's Field Reports: Prepare written information documenting tests and inspections of factory-authorized service representative. Include the following, as applicable:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement of substrate condition and acceptability of substrate for installation or application of product.
 - 3. Statement that products at Site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Document settings in writing.
 - 8. Other required items indicated in individual Specification Sections.
- Q. Safety Data Sheets (SDSs): Submit information directly to Owner; do not submit to Engineer.
 - 1. Engineer will not review Submittals that include SDSs and will return the entire Submittal for Resubmittal.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each Submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Verify field dimensions and conditions; note corrections as necessary. Mark with approval stamp before submitting to Engineer.
 - 1. Approval Stamp: Stamp each Submittal with an approval stamp. Use the same stamp format for each Submittal. Include Project name and location, Submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that Submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
- B. Submittals that are not approved and stamped by Contractor will be rejected.

3.2 ENGINEER'S REVIEW

- A. Action Submittals: Engineer will review Action Submittals, make marks to indicate corrections or modifications required, and return Submittal. Engineer will stamp each Submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. Reviewed, No Exceptions Noted: Submittal appears to conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 - 2. Reviewed With Corrections Noted: Upon incorporation of review comments, it appears that Submittal will conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 - 3. Revise and Resubmit: Submittal has one or more specific segments that are incomplete, do not appear to conform to the information given in the Contract Documents, or are incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Except as noted, Contractor shall not proceed with Work related to Submittal.
 - 4. Rejected, Resubmit: Submittal as a whole is incomplete, does not appear to conform to the information given in the Contract Documents, or is incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Contractor shall not proceed with Work related to Submittal.
- B. Informational Submittals: Other Submittals required by the Contract Documents are for information only. Engineer will acknowledge receipt of Informational Submittals. Such Submittals include, but are not limited to:
 - 1. Qualifications Data.
 - 2. Certificates.
 - 3. Test Reports.
 - 4. Manufacturer's Instructions.
 - 5. Maintenance Data.
 - 6. Field Reports.
- C. Delegated-Design Submittals: Review of Delegated-Design Submittals by Engineer shall not relieve Contractor of Contractor's sole responsibility for design and achieving specified performance.
- D. Submittals not required by the Contract Documents will be returned without being reviewed.
- E. Partial Submittals are not acceptable, will be considered non-responsive, and will be rejected.

END OF SECTION 01 33 00

SECTION 01 42 00 – REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for references throughout the Contract Documents.

1.3 DEFINITIONS

- A. Abbreviations:
 - 1. ACI - American Concrete Institute, 38800 Country Club Dr., Farmington Hills, MI 48331.
 - 2. AISC - American Institute of Steel Construction, Inc., One East Wacker Dr., Suite 700, Chicago, IL 60601-1802.
 - 3. ANSI - American National Standards Institute, 25 West 43rd St., 4th Floor, New York, NY 10036.
 - 4. ASTM - American Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.
 - 5. AWS - American Welding Society, Inc., 550 N.W. LeJeune Road, Miami, FL 33126.
 - 6. AWWA - American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235.
 - 7. CRSI - Concrete Reinforcing Steel Institute, 933 Plum Grove Road, Schaumburg, IL 60173-4758.
 - 8. EGLE - Michigan Department of Environment, Great Lakes and Energy, 525 West Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973.
 - 9. MDCH - Michigan Department of Community Health, 201 Townsend Street, Lansing, MI 48913.
 - 10. MIOSHA - Michigan Department of Licensing and Regulatory Affairs, Michigan Occupational and Health Administration, State Secondary Complex, 7150 Harris Drive, P.O. Box 30643, Lansing, MI 48909-8143.
 - 11. NSF – National Sanitation Foundation International; 789 N. Dixboro Road, Ann Arbor, MI 48105.

1.4 REFERENCES

- A. The provisions of the Contract Documents shall govern over any conflicting provisions of the referenced documents.
- B. The provisions of laws and regulations shall govern over any conflicting provisions of the referenced documents.
- C. Comply with the referenced document that is in effect as of the Bid date, except when a specific date is specified.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 42 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the furnishing and installation of construction facilities as follows:
 - 1. Temporary Utilities: Water, electricity.
 - 2. Contractor's field offices.
 - 3. Sanitary facilities.
 - 4. Enclosures such as tarpaulins, barricades, and canopies.
 - 5. Storage areas.

1.3 STORAGE AREAS

- A. Locations:
 - 1. The following general areas are available for storage:
 - a. Areas indicated on Drawings around Water Treatment Plant.
 - 2. Specific storage locations within the general areas:
 - a. Carefully coordinate with Owner.
 - b. Subject to approval of Owner.
 - 3. Contractor shall not block access to the thickeners, treatment basins, or other areas designated by the Owner.
- B. Protection and Restoration:
 - 1. Replace grass and other vegetation disturbed or damaged in the storage areas.
 - 2. Take reasonable means to prevent spillage of fuel, oil, chemicals and similar materials.
 - 3. Clean up spills and, if necessary, remove soil and replace with uncontaminated soil so as to allow vegetation to be quickly reestablished.
- C. Cleaning: Keep storage areas clean in accordance with Division 01 Section "Cleaning and Waste Management."
- D. Storage: Maintain in accordance with Division 01 Section "Product Storage and Handling Requirements."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General:
 - 1. New or used.
 - 2. Adequate in capacity for the required usage.
 - 3. Provide safe conditions.
 - 4. Comply with requirements of applicable codes and standards.

2.2 UTILITIES

- A. Temporary Utilities:
 - 1. Equipment Testing:
 - a. Pay utility charges for all power, water, and other utilities.
 - b. Furnish, install, remove, and pay for associated temporary equipment, piping, pumps, fuel, power distribution, and connections.
 - 2. Water: Provided by Owner
 - 3. Electricity: Provided by Contractor.

2.3 FIELD OFFICES

- A. Contractor's Field Office:
 - 1. Contractor's field office shall have at least 1 outside door.
 - 2. Pay for all heat, electricity and telephone charges.

2.4 SANITARY FACILITIES

- A. Furnish and install required sanitary facilities, including temporary toilet buildings with sanitary toilets and hand washing facilities or hand sanitizing stations, for use of workers; comply with minimum requirements of the Health Department or other public agency having jurisdiction; maintain in a sanitary condition at all times.

2.5 CONSTRUCTION HEATING

- A. General:
 - 1. All heating required during the progress of the Work, prior to the installation of the permanent heating system, shall be classified "temporary heat".
 - 2. Prior to the installation of permanent heating equipment, furnish approved heaters and fuel as required.
 - 3. Keep equipment and surroundings in clean, safe condition.
 - 4. Pay all fuel bills for heat.
- B. Permanent Heating Equipment:
 - 1. Notify Engineer when installed and proposed to be used to heat building interior.
 - 2. Prior to using, provide adequate means to keep internal duct and acoustic liner surfaces clean and in a like-new condition.
 - 3. Filters:
 - a. In accordance with Division 23 Section "HVAC Air Cleaning Devices."
 - b. Securely supported at each return and exhaust air open duct end and grille.
 - c. Support filter length at required intervals to prevent filter deformation.
 - d. Replaced at intervals required to keep internal duct and acoustic liner surfaces free of construction debris and dust.
 - 4. Ductwork used by Contractor without adequate protection shall be cleaned to Engineer's satisfaction.
- C. Temperatures:
 - 1. Except as otherwise called for, a minimum temperature of 50 degrees F and a maximum temperature of 75 degrees F in the building shall be maintained during working hours and above freezing at all other times.
 - 2. See requirements of various other Sections of these Specifications for minimum temperature to be maintained for the application of work under the various trades.

2.6 OTHER TEMPORARY CONSTRUCTION FACILITIES

- A. Furnish, install, and maintain all other temporary construction facilities necessary for proper completion of the Work.

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with applicable requirements specified in: Local Building Code.
- B. Maintain and operate systems to ensure continuous service.
- C. Modify and extend systems as Work progress requires.

3.2 TEMPORARY CONTROLS

- A. Traffic Control:
 - 1. Provide adequate barricades and take all necessary precautions for the protection of the Work, and the safety of the WTP staff.
 - 2. Maintain access for all WTP operations, deliveries, and normal activity for the duration of the Work.

3.3 REMOVAL

- A. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the Work. Remove all such temporary facilities and controls as rapidly as progress of the Work will permit.

END OF SECTION 01 50 00

SECTION 01 66 00 – PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for the storage and protection of Products.

1.3 STORAGE AND PROTECTION

- A. Storage:
 - 1. Maintain ample way for foot traffic at all times, except as otherwise approved by Engineer.
 - 2. Repair or replace property damaged by reason of storing of material at no additional cost to Owner.
 - 3. Packaged Materials:
 - a. Delivered in original, unopened containers.
 - b. Stored until ready for use.
 - 4. Materials shall meet the requirements of these Specifications at the time that they are used in the Work.
 - 5. Store Products in accordance with Manufacturer's instructions.
- B. Protection:
 - 1. Use all means necessary to protect the:
 - a. Products of every Section before, during and after installation.
 - b. Installed work and materials of all trades.
 - 2. All materials shall be delivered, stored and handled to prevent:
 - a. The inclusion of foreign materials.
 - b. Damage by water, breakage or other causes.
 - 3. Provide weathertight storage sheds with raised floors as may be required to adequately protect those materials and Products stored on the Site which may require protection from damage by the elements.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of Engineer and at no additional cost to Owner.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 66 00

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the instructions for and the responsibilities of each party in contract closeout.
- B. Related Section includes Certificate of Substantial Completion.

1.3 SUBSTANTIAL COMPLETION

- A. Contractor: When Contractor considers that the Work or any portion of the Work is ready for its intended use, Contractor shall submit:
 - 1. Written certification to Engineer and Owner that the Work, or designated portion of the Work, is substantially complete.
 - 2. A list of major items to be completed or corrected.
 - 3. Request that Engineer issue a certificate of Substantial Completion.
- B. Engineer's Inspection: Engineer will make an inspection:
 - 1. Within 10 days after receipt of certification.
 - 2. Together with Owner and Contractor.
- C. Engineer's Determination of Substantial Completion:
 - 1. Should Engineer consider the Work or designated portion of the Work substantially complete, the following steps shall be taken:
 - a. Contractor shall prepare and submit to Engineer, a list of items to be completed or corrected as determined by the inspection.
 - b. Engineer will prepare and deliver to Owner:
 - 1) A tentative certificate of Substantial Completion.
 - 2) A tentative list of items to be completed or corrected before final payment.
 - c. Owner shall have 7 days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list.
 - d. Engineer will, within 14 days after delivery of tentative certificate to Owner, decide:
 - 1) Not Substantially Complete: Engineer will issue written notice to Contractor stating reasons.
 - 2) Substantially Complete: Engineer will issue definitive certificate of Substantial Completion and a revised list of items to be corrected or completed.
 - 2. Should Engineer consider that the Work or designated portion of the Work is not substantially complete, the following steps shall be taken:
 - a. Engineer shall notify Contractor in writing stating Engineer's reasons.
 - b. Contractor shall complete the Work and send a second written notice to Engineer certifying that the Project, or designated portion of the Project, is substantially complete.
 - c. Engineer and Owner will reinspect the Work.
- D. Division of Responsibilities:
 - 1. Engineer:
 - a. At the time of delivery of tentative certificate of Substantial Completion.
 - b. Deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment with respect to:
 - 1) Security.
 - 2) Operation.
 - 3) Safety.
 - 4) Protection of the Work.
 - 5) Maintenance.

- 6) Heat.
 - 7) Utilities.
 - 8) Insurance.
 - 9) Warranties.
2. Engineer's written recommendation on division of responsibilities shall be binding on Owner and Contractor until final payment unless Owner and Contractor agree otherwise in writing and so notify Engineer prior to Engineer's issuance of a definitive certificate of Substantial Completion.

1.4 FINAL INSPECTION

- A. Contractor Certification: Prior to final inspection, Contractor shall submit written certification that:
 1. The Contract Documents have been reviewed.
 2. The Project has been inspected in compliance with the Contract Documents.
 3. Work has been completed in accordance with the Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. The Project is complete and ready for final inspection.
- B. Engineer's Inspection: The Engineer will make final inspection:
 1. Within 10 days after receipt of certification.
 2. Together with Owner and Contractor.
- C. Engineer's Determination of Final Completion:
 1. Should Engineer consider the Work complete and ready for final payment in accordance with the requirements of the Contract Documents, Engineer shall request Contractor to make Project closeout submittals.
 2. Should Engineer consider the Work not complete and ready for final payment:
 - a. Engineer shall notify Contractor in writing stating the reasons.
 - b. Contractor:
 - 1) Take immediate steps to remedy the stated deficiencies.
 - 2) Send a second written notice to Engineer certifying that the Work is complete.
 - c. Engineer and Owner will reinspect the Work.

1.5 REINSPECTION COSTS

- A. Should Engineer be required to perform second inspections because of failure of the Work to comply with the original certifications of Contractor, Owner will compensate Engineer for additional services and deduct the amount paid from payment or payments to Contractor.

1.6 ADDITIONAL INSPECTION COSTS

- A. Substantial Completion: Owner will compensate Engineer for inspection services rendered between the scheduled date of Substantial Completion and the actual date of Substantial Completion and deduct the amounts paid from payment or payments to Contractor.
- B. Final Completion: Owner will compensate Engineer for inspection services rendered between the scheduled date of final completion and the actual date of final completion and deduct the amounts paid from payment or payments to Contractor.

1.7 CLOSEOUT SUBMITTALS

- A. Contractor:
 1. Provide closeout submittals as required in the Contract Documents.
 2. These submittals shall include, but not necessarily be limited to:
 - a. Project record documents.
 - b. Operation and maintenance manuals.
 - c. Guarantees.
 - d. Spare parts and maintenance materials.
 - e. Instruction in operation of all systems.

1.8 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

- A. Affidavits:
 - 1. Submit with final Application for Payment an affidavit of payment of debts and release of claims.
 - 2. Affidavit shall include:
 - a. Contractor's release or waiver of lien.
 - b. Consent of surety of final payment.
- B. Execution: All submittals shall be duly executed before delivery to Engineer.

1.9 FINAL ADJUSTMENT OF ACCOUNTS

- A. Final Statement: Submit a final statement of accounting, which reflects all adjustments, to Engineer. This statement shall contain the following:
 - 1. Original Contract Price.
 - 2. Additions and deductions.
 - 3. Total Contract Price as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- B. Final Change Order: Engineer will prepare a final Change Order reflecting approved adjustments to the Contract Price not previously made by Change Orders.

1.10 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit a final Application for Payment in accordance with the requirements of the Contract Documents.
- B. Disposition of Final Application for Payment:
 - 1. If the final Application for Payment and the Work are acceptable in accordance with the Contract Documents:
 - a. Engineer will, within 10 days after receipt of the Application for Payment:
 - 1) Submit to Owner a written recommendation for payment.
 - 2) Submit to Owner and Contractor a written notice that the Work is acceptable subject to the provisions of the General Conditions.
 - b. Owner will, within 30 days after receipt of the Application for Payment and Engineer's recommendation in accordance with the Contract Documents, pay to Contractor the amount recommended.
 - 2. If the Application for Payment, the Work or both are unacceptable:
 - a. Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment.
 - b. Contractor shall make the necessary corrections and resubmit the Application for Payment.
 - 3. Final Completion Delayed:
 - a. Upon receipt of Contractor's final Application for Payment and recommendation by Engineer, Owner shall make payment of the balance due for that portion of the Work fully completed and accepted if Engineer confirms that final completion of the Work is significantly delayed through no fault of Contractor.
 - b. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
 - c. Contractor shall submit with the Application for Payment written consent of surety if the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 77 00

SECTION 01 78 39 – PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for the maintenance, recording and submittal of Project record documents.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Storage:
 - 1. Store documents and Samples in Contractor's field office apart from documents used for construction.
 - 2. Provide files and racks for storage of documents.
 - 3. Provide locked cabinet or secure storage space for storage of Samples.
- B. Filing: File record documents in accordance with CSI Masterformat.
- C. Maintenance:
 - 1. Maintain documents in a clean, dry, legible condition and in good order.
 - 2. Do not use record documents for construction purposes.
- D. Availability: Make documents and Samples available at all times for inspection by Engineer.

1.4 RECORDING

- A. Labeling: Label each document "PROJECT RECORD" in neat large printed letters.
- B. Recording:
 - 1. Record actual revisions to the Work.
 - 2. Record information concurrently with construction progress.
 - 3. Do not conceal any work until required information is recorded.
- C. Drawings:
 - 1. Legibly mark, with notes or graphic representations, to record actual construction.
 - a. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - b. Field changes of dimension and detail.
 - c. Changes made by Field Order, Work Change Directive or Change Order.
 - d. Details not on original Contract Drawings.
 - 2. After Engineer's review of the record drawings, transfer all marks to a set of electronic documents provided by Engineer.

1.5 SUBMITTAL

- A. Delivery:
 - 1. At Contract closeout, deliver record documents to Engineer for Owner.
 - 2. Submit only Contract Documents marked up. Three dimensional models, shop drawings, or other representations of the Project created by the Contractor from the Contract Documents will not be accepted.

B. Transmittal Letter:

1. Accompany submittal with transmittal letter in duplicate, containing:
 - a. Date.
 - b. Project title and number.
 - c. Contractor's name and address.
 - d. Title and number of each Record Document.
 - e. Signature of Contractor or their authorized representative.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 78 39

SECTION 02 22 26 – PRECONSTRUCTION AUDIO-VISUAL DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the furnishing of all labor, materials and equipment necessary for a complete color audio-video record of the existing surface features for the entire project to accurately document the pre-construction conditions within the proposed construction's zone of influence.

1.3 SUBMITTALS

- A. Qualifications: Submit such information as requested by the Engineer to determine the ability to produce professional video in accordance with industry standards and these specifications.

1.4 QUALITY ASSURANCE

- A. Audio-video documentation shall be by a responsible commercial firm regularly engaged in color audio-video construction documentation.
- B. Owner reserves the right to reject any audio-video documentation not conforming to these Specifications. Such rejected documentation shall be redone at no additional cost to Owner.

1.5 PRODUCT DELIVERY

- A. Deliver to Owner through Engineer premium quality DVD's or Video CD's with recorded documentation upon completion of the project or upon completion of segments, if requested.
- B. DVD's shall be compatible with playback on any Region I American TV standard DVD Player.

1.6 SEQUENCING AND SCHEDULING

- A. Attend a meeting with Engineer to outline the coverage expected for the project, prior to the start of the video documentation.

PART 2 - PRODUCTS

2.1 Delivered product shall include all digital audio-video discs, disc storage cases, disc index labels, and runsheet logs.

- A. Video to be mastered on high quality formats only:
 - 1. CD
 - 2. DVD
 - 3. Flash Drive
 - 4. Portable hard drive
- B. High quality camcorders to be used:
 - 1. With 1/4-inch, 1/3-inch or 1/2-inch charged coupled device imaging systems.
 - 2. With optical stabilization; electronic stabilization is not acceptable.
 - 3. With 20x minimum optical magnification.
 - 4. Capable of producing NTSC 525 lines of resolution/60 fields/30 frames per second.
 - 5. Capable of 3-luxillumination minimum.

- C. Disc Index Labels:
 - 1. All discs shall be labeled with appropriate project information and be able to be cross referenced with runsheets.
 - 2. Label information to include:
 - a. DVD/Video CD number.
 - b. Project title.
 - c. Location of project.
 - d. Month and year of coverage.
 - e. Set information, i.e., Engineer's set, Owner's set, Contractor's set.
 - f. Quick reference list of contents of a particular DVD.
- D. Runsheet Logs:
 - 1. Provide a runsheet log that accurately catalogs the contents of each video.
 - 2. Runsheet logs to include:
 - a. Street name, easement or address.
 - b. Sheet number or numbers relative to the line entry of a particular area of coverage.
 - c. DVD/Video CD numbers.
 - d. Real time code indexing for each segment of the project indicating hours minutes and seconds to cross reference with playback equipment to locate specific points of interest on the project.
 - e. Direction of travel for each specific segment.
 - f. Viewing side for each specific segment.
 - g. Starting point for each specific segment.
 - h. Ending point for each specific segment.
 - i. Project information, i.e. project title, owner, date.
- E. Vehicles used while performing documentation to be plainly marked with company name and telephone number with caution signs, flags and strobes to affect a safe and hazard free operation.

PART 3 - EXECUTION

3.1 RECORDING

- A. General:
 - 1. Coverage:
 - a. Recordings shall include coverage of all surface features located within the zone of influence of the proposed construction.
 - b. The zone of influence is defined as the area within the road right-of-way, area within permanent and temporary easements and adjacent areas which may be affected by routine construction operations.
 - c. The surface features include, but are not limited to, all roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, trees, shrubbery, and fences.
 - d. Of particular concern shall be the existence or nonexistence of any faults, fractures, or defects.
 - e. All recording shall be performed during times of good visibility.
 - f. No recording shall take place when there is snow cover on the ground unless authorized by Engineer.
 - g. The Engineer may designate areas to be omitted or added for audio-video documentation.
 - h. Areas not accessible by conventional wheeled vehicles shall be accessed by walking or special conveyance.
 - 2. Time of Execution: Prior to placement of equipment and materials on the jobsite.
 - 3. Coverage Continuity:
 - a. Accessible Areas: Coverage shall consist of a single, continuous, recording which begins at one end of a particular construction area and continues to the other end of that construction area.
 - b. Non Accessible Areas (Across Easements, Etc.): Coverage shall consist of an organized, interrelated sequence of recordings at various positions along the proposed construction area.
 - 4. Video portion of the documentation shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of picture imperfection.
 - 5. Audio Portion of the Documentation:
 - a. Shall reproduce the commentary of the camera operator with proper volume, clarity, free from distortion and background noise.

- b. Assist in maintenance of viewer orientation and in identification, clarification, or objective description of the structures being shown in the video portion of the recording.
 - 6. Video shall display through electronic means information germane to the current video display.
 - a. Display continuously information as follows:
 - 1) Time and date of recording.
 - 2) Location of recording, i.e., street name, easement or address.
 - b. When conventional wheeled vehicles are utilized, include engineering stationing to coincide with project plans, direction of travel and viewing side.
 - 1) The engineering stationing must be continuous and accurate and reflect the stationing within the field of view.
 - 2) The engineering stationing must coincide with stationing on project plans and utilize standard engineering symbols, i.e., 5+00.
 - 3) Global Positioning System satellites may be used with or in place of engineering stationing.
 - a) Differential Global Positioning System is to be used where available, with updates 1/second at 5 meter or less spherical accuracy.
 - b) Standard Global Positioning System accuracy is as dictated by the United States Department of Defense mandate.
 - c) Global Positioning System display will be at 1 meter longitude and 1 meter latitude increments, i.e., 414N529 08317W302.
- B. Procedural Requirements for Coverage Rates:
 - 1. The following table sets the maximum rate of travel for the following areas:

AREA	AVE RATE MAX
Entire Project	30 ft/min
- 2. Camera Positioning and Techniques:
 - a. Height and Stability: Camera to be mounted securely to produce steady viewing with lens not less than 8 feet above the ground of the area being viewed, or at a level to facilitate best perspective and line of site when using conventional wheeled vehicles.
 - b. Control: All movements shall be at a rate that allows recorded objects to be viewed clearly during video playback.
 - c. Viewer Orientation for Road Areas: Utilize overall establishing views and visual displays of all visible house and building addresses.
 - 1) Easement Areas: Highly visible yellow flags shall be used to clearly define proposed centerline of construction.
- 3. Private Property:
 - a. Contractor shall obtain permission of property owner before entering private property.
 - b. If Contractor is refused entry to private property, Contractor shall notify Engineer and wait until permission is obtained before entering the property.

END OF SECTION 02 22 26

SECTION 02 41 19 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the modification, alteration, conversion, and renovation of existing structures:
 - 1. Be aware of the many incidental items which exist which must be demolished, relocated, or replaced in order to accomplish the remodeling work of trades.
 - 2. Include the price of such demolition, relocating, and replacement in the base Bid.
 - 3. These incidental items may or may not be indicated in the Contract Documents.
 - 4. Contractor and Subcontractors performing remodeling work are expected to be familiar with the unknown nature of existing utilities serving an area to be remodeled and shall calculate the base Bid to include the demolition, removal, relocation, and replacement of these utilities.

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the pertinent provisions of the following:
 - 1. American National Standards Institute: ANSI A10.6 - Safety Requirements for Demolition Operations.
 - 2. ASTM: D1557 - Laboratory Compaction Characteristics of Soil Using Modified Effort.
 - 3. EPA: Rule 406(b) of the Toxic Substances Control Act of 1992.
 - 4. NFPA: NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.4 DEFINITIONS

- A. Terms:
 - 1. Abandon:
 - a. Remove an item to the extent that it is not visible and does not interfere with new construction.
 - b. Portions of the abandoned item may be left in place.
 - c. No abandoned items shall be left below new footings.
 - 2. Demolish:
 - a. Remove existing items from their present location in the Project area and haul to an area outside of the Project area.
 - b. Remove utilities serving these items.
 - 3. Relocate:
 - a. Move existing items from their present location to another location in the Project area.
 - b. Extend utilities serving the present location to the new location.
 - 4. Remove:
 - a. Except for items indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property.
 - b. Remove existing items from their present location in the Project area and haul to an area outside of the Project area.
 - c. Remove utilities serving these items.
 - 5. Replace:
 - a. Remove existing items from their present location in the Project area, haul them to an area outside of the Project area, and furnish and install new items in the same or another location.
 - b. Extend utilities serving the present location to the new location.
 - 6. Reuse: Move existing items from their present location to another location in the Project area. Extend utilities serving the present location to the new location.

7. Historic Items:
 - a. Historic items, relics, and similar object including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property.
 - b. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.5 DIVISION OF WORK

- A. Work: In accordance with the General Conditions, Contractor is responsible for dividing the Work among the Subcontractors and Suppliers and for delineating the work to be performed by specific trades. The following are suggestions as to how the Work may be divided. This is not a complete list of the work:
 1. Contractor:
 - a. Cut and patch walls, floors, and ceilings to allow for recessed utilities and ductwork.
 - b. Remove and reinstall existing suspended ceilings to allow for above ceiling construction.
 - c. Replace damaged units.
 - d. Install new ceilings as indicated on the Drawings.
 - e. Place sleeves in new concrete structures.
 - f. Patch roof at new penetration and curbs and where existing penetrations and curbs are removed.
 - g. Furnish and install new structural steel where required for reinforcement at floor, wall, and roof openings.
 - h. Install fire stop and smoke stop systems at penetrations for ratings indicated in accordance with local building codes.
 2. Mechanical, Electrical, and Fire Protection Subcontractors:
 - a. Furnish sleeves for use in new concrete construction.
 - b. Install fire stop and smoke stop systems at utility penetrations in accordance with local building codes.
 - c. Furnish and install sleeves in gypsum board and masonry construction.
 - d. Core drill existing concrete for new utilities and sleeves after obtaining Engineer's review of locations.
 - e. Remove and reinstall existing fire protection heads to allow for ceiling removal and installation.
 - f. Furnish new heads, piping, and connections as required for completion of the Work.
 3. Miscellaneous:
 - a. Each trade shall be financially responsible for cutting and patching for sleeves, penetrations, and installation of isolated components as necessary for its work unless herein specifically stated to the contrary.
 - b. On renovation projects, cut and patch walls, floors, and ceilings to allow for continuous runs of recessed utilities and ductwork.
 - c. Patching shall be done by the trade whose work is damaged.
 - d. Costs caused by defective or ill-timed work shall be borne by the party responsible.
 - e. Each trade shall do fitting of its own work as required to make its several components fit together or to receive the work of other trades.

1.6 SUBMITTALS

- A. Predemolition Audio-video:
 1. Submit showing existing conditions of construction to remain that could be misconstrued as damage caused by construction activities.
 2. Including building and Site, as well as interior and exterior finishes.
 3. Submit prior to commencing Work.

1.7 QUALITY ASSURANCE

- A. Qualifications: Engage an experienced firm that has specialized in demolition work similar to material and extent indicated for this Project.

- B. Regulatory Requirements:
 - 1. Comply with governing EPA notification regulations before beginning selective demolition.
 - 2. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - 3. Comply with ANSI A10.6 and NFPA 241.
 - 4. Comply with 29 CFR 1926.62-(OSHA Paint Standard).
- C. Pre-Demolition Conference:
 - 1. Conduct pre-demolition conference at Site in accordance with in Division 01 Section "Project Meetings."
 - 2. Review methods and procedures related to selective demolition including, but not limited to, the following:
 - a. Inspect and discuss condition of construction to be selectively demolished.
 - b. Review structural load limitations of existing structure.
 - c. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and to avoid delays.
 - d. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.8 PROJECT CONDITIONS

- A. Owner Occupancy:
 - 1. Owner will occupy portions of building immediately adjacent to selective demolition area.
 - 2. Conduct selective demolition so Owner's operations will not be disrupted.
 - 3. Provide not less than 72 hours notice to Owner of activities that will affect Owner's operations.
- B. Access:
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
 - 2. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- C. Conditions:
 - 1. Owner and Engineer assume no responsibility for condition of areas to be selectively demolished.
 - 2. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as far as practicable.
- D. Storage or sale of removed items or materials on Site will not be permitted.
- E. Maintenance of Utilities:
 - 1. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 2. Maintain fire-protection facilities in service during selective demolition operations.
- F. Lead Paint: Remove and remediate existing lead paint as required to comply with all codes and requirements while performing the requirements of the Work. Either remove lead paint completely or partially as required to achieve this.

1.9 WARRANTIES

- A. Existing Warranties:
 - 1. Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.
 - 2. If possible, retain original installer or fabricator to patch exposed work that is damaged during selective demolition.
 - 3. If it is not possible to engage original installer or fabricator, engage another recognized, experienced, and specialized firm.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General:
 - 1. Materials and workmanship shall conform to the requirements of other Sections of the Specifications.
 - 2. Where no materials are specified in these specifications, use materials of an equivalent type, quality, and size to match those existing in other areas of the facility.
 - 3. If none exist, use materials and workmanship recognized as of the highest quality in the industry.
 - 4. Obtain Engineer's review of such material and workmanship.
- B. Piping: Existing piping which is removed from its present location shall not be reused where new piping is required unless specifically noted on the Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled, and of items to be removed and salvaged.
- D. Conflicts:
 - 1. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict.
 - 2. Promptly submit written report to Engineer.
- E. Survey, or engage a competent person to survey condition of the building, in accordance with requirements of OSHA, to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition operations.
- F. Perform additional surveys as the work progresses to detect hazards resulting from operations to date.

3.2 UTILITY SERVICES

- A. Maintain existing services indicated to remain and protect them against damage during selective demolition operations.
- B. Interruptions:
 - 1. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and other authorities having jurisdiction.
 - 2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
 - 3. Provide at least 72 hours notice to Owner if shutdown of service is required during changeover.
- C. Utility Requirements:
 - 1. Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
 - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
 - 3. Arrange to shut off indicated utilities with utility companies.
 - 4. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition, provide temporary utilities that bypass areas of selective demolition and that maintain continuity of service to other parts of building.
 - 5. Cut off pipe or conduit in walls or partitions to be removed.
 - 6. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

- A. Site Access and Temporary Controls:
 - 1. Conduct selective demolition and debris removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 2. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and other authorities having jurisdiction.
 - 3. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
 - 4. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 5. Protect existing Site improvements, appurtenances, and landscape features to remain.
 - 6. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line or groups of trees to remain.
- B. Temporary Facilities:
 - 1. Protection:
 - a. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - b. Provide protection to ensure safe passage of people around selective demolition area, and to and from occupied portion of building.
 - c. Weather Protection:
 - 1) Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 2) Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures.
 - 3) Coordinate enclosures with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - d. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - e. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 2. Enclosures:
 - a. Provide temporary enclosures around Filter 18 and Filter 20 as required to isolate dust, fumes and odors from areas in use, to control temperature and humidity, and to protect surface to be coated from the weather.
 - b. The enclosure shall be of such quality as to maintain optimal conditions for the work.
 - c. The enclosure shall remain until the work is sufficiently cured.
 - 3. Heating Ventilation and Humidity Control:
 - a. Ventilation is mandatory.
 - b. Provide ventilation that exhausts fumes and odors to the exterior at a location where existing HVAC systems will not pick up these fumes and odors.
 - c. Provide negative air pressure to temporary enclosure spaces without reducing air temperatures in those spaces.
 - d. Ventilation is required during, but not limited to, demolition, concrete repair, surface preparation, application of coating systems, and the curing period for those systems.
 - e. Provide additional equipment and fuel as required to condition the space for surface preparation, application of products, and curing of those products, in accordance with Manufacturer's requirements. This equipment may include, but is not limited to, heaters, dehumidifiers and fans for intake and exhaust air.

3.4 POLLUTION CONTROLS

- A. Dust Control:
 - 1. Use water mist, temporary closures, and other suitable methods to limit spread of dust and dirt.
 - 2. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
 - 3. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure.
 - 4. Vacuum carpeted areas.
 - 5. Comply with governing environmental protection regulations.

- B. Disposal:
 - 1. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 2. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

3.5 GENERAL

- A. Demolish and remove existing construction only to the extent required by new construction and as indicated.
- B. Methods:
 - 1. Use methods required to complete the work within limitations of governing regulations.
 - 2. Level by Level:
 - a. Proceed with selective demolition systematically, from higher to lower level.
 - b. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 3. Cutting Openings:
 - a. Neatly cut openings and holes plumb, square, and true to dimensions required.
 - b. Use cutting methods least likely to damage construction to remain or to adjoining construction.
 - c. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
 - d. Temporarily cover openings to remain.
 - 4. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 5. Flame Cutting:
 - a. Do not use cutting torches until work area is cleared of flammable materials.
 - b. At concealed spaces, such as duct and pipe chases, verify condition and contents of hidden space before starting flame-cutting operations.
 - c. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials, and promptly and legally dispose of off Site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 9. Dispose of demolished items and materials promptly.
 - 10. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- C. Existing Facilities: Comply with Owner's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during the selective demolition operations.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Paint equipment to match new equipment.
 - 3. Pack or crate items after cleaning and repairing, and identify contents of containers.
 - 4. Protect items from damage during transport and storage.
 - 5. Reinstall items in locations indicated.
 - 6. Comply with requirements for new materials and equipment.
 - 7. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain:
 - 1. Protect construction indicated to remain against damage and soiling during selective demolition.
 - 2. When permitted by Engineer, items may be removed to a suitable, protected storage location and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 DEMOLITION

A. Structures:

1. Cut, repair, reuse, excavate, demolish or otherwise remove parts of the existing structures or appurtenances, as indicated on the Drawings, herein specified and necessary to permit completion of the Work.
2. Dispose of demolished materials in an approved manner.
3. Include necessary cutting, bending, and welding of reinforcing steel, structural steel, or miscellaneous metal work found embedded in the existing structures.
4. When removing materials or portions of existing structures, shore up, underpin, and protect adjacent structures.
5. Concrete:
 - a. Demolish in small sections.
 - b. Cut concrete to a depth of at least 3/4-inch at junctures with construction to remain, using a power driven saw.
 - c. Dislodge concrete from reinforcement to remain at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated.
 - d. Neatly trim openings to dimensions indicated.
6. Engineer's review of cutting: No existing structure, equipment or appurtenance shall be shifted, cut, removed or otherwise altered without obtaining review of Engineer.

B. Equipment:

1. Dismantle, remove, and relocate existing equipment, piping, and other appurtenances required for the completion of the Work.
2. Cut existing pipelines for the purpose of making connections thereto.
3. Cut off anchor bolts for equipment and structural steel indicated to be removed 1-inch below the concrete surface.
4. Patch remaining concrete surface to smooth even finish.
5. Remove air conditioning equipment without releasing refrigerants, if applicable.

C. Piping, Fire Protection, and Electrical Components:

1. When a new connection is made to an existing pipeline, install additional new piping, extending to and including the most convenient new valve.
2. Piping, conduit, and wiring indicated or required to be demolished shall be done so to the nearest reasonable connection outside of the Project area or as directed by Engineer.
3. Where necessary or required for the purpose of making connections, cut existing pipelines in a manner to provide an approved joint.
4. Weld beads, flanges, and provide Dresser couplings on existing and new piping.
5. Remove and reinstall existing fire protection heads to allow for new construction.
6. Comply with applicable fire protection codes.
7. Furnish new heads, piping, and connections as required for completion of the Work.
8. Remove junction boxes and electrical outlets which will no longer be in use.
9. At existing walls which are made thicker, extend piping and wiring to accommodate additional wall thickness.
10. Remove and reinstall fixtures and electrical outlets, switches, etc.

D. Floor Slabs:

1. Where new utilities must be installed below the existing floor slab, saw cut the slab for at least 1-inch of depth.
2. Break out the remaining depth with jack hammers or hand tools to provide a rough surface.
3. Leave existing steel reinforcing so that it laps at least 6 inches into the new concrete slab over the trench.
4. The exact width of the concrete removed shall depend upon the required depth and diameter of the new utility.
5. Allow for sufficient working space in the trench.

E. Conceal Utilities: Recess new piping, conduit, and other utilities into floors, wires, and ceilings in finished areas.

- F. Ownership of Salvaged Materials:
 - 1. Materials and equipment removed shall remain the property of Owner at Owner's option.
 - 2. Items not salvageable, as determined by Engineer and Owner, and items Owner elects not to keep shall become the property of Contractor to be properly disposed of off the Site.
 - 3. Salvaged equipment shall be thoroughly cleaned, lubricated, and greased for protection during prolonged storage.
- G. Nonshrink Grout: Use nonshrink grout for setting wall castings, sleeves, leveling pump bases, doweling anchors into existing concrete and elsewhere as indicated.
- H. Protect Facility from Water Damage: Provide flumes, hoses, piping, suitable plugs, bulkheads, or other means to divert or hold back the flow of wastewater, water, or other liquids, as required for proper performance of the Work.
- I. Blasting: Not permitted.
- J. Sleeves:
 - 1. Subcontractors for mechanical, electrical, and other trades shall furnish sleeves and inserts for pipes, conduits, and similar items in forms, walls, partitions, and floors.
 - 2. Perform work in cooperation with Contractor.
 - 3. Place items in ample time so as not to delay operations.
 - 4. Do not place sleeves so they pass through beams, girders, and similar construction.
- K. Firestopping and Smokestopping: Install firestop and smokestop systems at utility penetrations in accordance with local building codes.

3.7 PATCHING AND REFINISHING

- A. Promptly repair damage to adjacent construction caused by selective demolition operations.
- B. Patching:
 - 1. Patch and repair existing surfaces from which items have been removed leaving holes, fasteners, and surface blemishes exposed to view.
 - 2. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
 - 3. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to Manufacturer's written recommendations.
- C. Refinishing:
 - 1. Prepare existing surfaces for finishes by scraping, sanding, filling, acid etching, and sand blasting to ensure bonding and a smooth finish.
 - 2. Refinish entire surfaces as necessary to provide an even finish.
 - 3. Refinish continuous surfaces to the nearest intersection and entirely finish assemblies.
 - 4. Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.
 - 5. Refinish entire surfaces if necessary to remediate existing lead painted surfaces.

3.8 CLEANING

- A. Clean materials installed under this Section in accordance with Division 01 Section "Cleaning and Waste Management."
- B. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations.
- C. Return adjacent areas to conditions existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 03 01 33 – REHABILITATION OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Locating and removing delaminated, spalled and unsound concrete.
 - 2. Preparing cavities created by removals to receive patching materials.
 - 3. Replacing existing deteriorated concrete and reinforcement.
 - 4. Repairing concrete expansion joints.
 - 5. Crack repair.
- B. Concrete restoration work will be paid for on via Lump Sum Allowance. Refer to the Bid Form.

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:
 - 1. ASTM:
 - a. A615 – Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - b. A1064 – Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - c. C31 – Making and Curing Concrete Test Specimens in the Field.
 - d. C33 – Concrete Aggregates.
 - e. C39 – Compressive Strength of Cylindrical Concrete Specimens.
 - f. C94 – Ready-Mixed Concrete.
 - g. C109 – Compressive Strength of Hydraulic Cement Mortars (Using 2-in. Cube Specimens).
 - h. C136 – Sieve Analysis of Fine and Coarse Aggregates.
 - i. C142 – Slump of Hydraulic Cement Concrete.
 - j. C150 – Portland Cement.
 - k. C260 – Air-Entraining Admixtures for Concrete.
 - l. C309 – Liquid Membrane-Forming Compounds for Curing Concrete.
 - m. C494 – Chemical Admixtures for Concrete.
 - n. C1064 – Temperature of Freshly Mixed Hydraulic Cement Concrete.
 - o. D3575 – Flexible Cellular Materials Made From Olefin Polymers.
 - 2. ACI:
 - a. 301 – Specifications for Structural Concrete.
 - b. 302.1R – Guide for Concrete Floor and Slab Construction.
 - c. 309R – Guide to Consolidation of Concrete.
 - d. 347R – Guide to Formwork for Concrete.
 - e. 503.2 – Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive.
 - f. 546.1R – Guide for Repair of Concrete Bridge Superstructures.
 - 3. US Corps of Engineers:
 - a. EM – 1110-2 – Corp of Engineers Manual.
 - 4. International Concrete Repair Institute (ICRI).
 - 5. American National Standards Institute (ANSI)/National Sanitation Foundation (NSF) – ANSI/NSF 61 - Drinking Water System Components - Health Effects.

1.4 DEFINITIONS

- A. Delaminations: Fracture planes or “internal cracks,” within concrete. Typically, these fractures are parallel to the member face and vary in depth.

- B. Spalls: Potholes, cavities or voids in floor slabs, beams, columns, or walls, usually the result of delaminations migrating to the face of the concrete member. When the delamination reaches the surface, concrete encompassed by the delamination breaks away, resulting in a spall.
- C. Unsound Concrete: Concrete exhibiting one or more of the following:
 - 1. Incipient fractures present beneath existing delaminated or spalled surfaces.
 - 2. Honeycombing.
 - 3. Friable or punky areas.
 - 4. Deterioration from freeze-thaw action.
- D. Scaling: Deterioration which attacks the mortar fraction (paste) of the concrete mix. Scaling first appears as minor flaking and disintegration of a concrete surface and eventually progresses deeper into concrete, exposing aggregate which breaks away. Concrete scaling is caused by freeze-thaw action. If concrete is frozen in a saturated state, excess water freezing in concrete causes high internal stresses.
- E. Saturated Surface Dry (SSD): The condition in which a surface is saturated with water and cannot absorb more, but no free water is present on the surface and is in accordance with the ICRI recommendations.

1.5 SUBMITTALS

- A. Product Data:
 - 1. Submit for each Product to be used on the Project.
 - 2. Include specifications and recommended application procedures showing compliance with the Project requirements.
 - 3. Provide safety data sheets for products used.
 - 4. Provide either an approved ICBO Evaluation Report number in the name of the system and system's Manufacturer, or an evaluation by independent testing facility.
- B. Surface Preparation Methods: Submit details of preparation method to Engineer for review prior to commencing work.

1.6 QUALITY ASSURANCE

- A. Fabrication and Installation Personnel Qualifications:
 - 1. Trained and experienced in the fabrication and installation of the materials and equipment.
 - 2. Knowledgeable of the design and the reviewed Shop Drawings.
 - 3. Each component of a system or product shall be installed by Manufacturer trained personnel. Installers shall demonstrate knowledge of product and installation.
- B. Manufacturer's Services:
 - 1. Provide 1 day of product Manufacturer's technical representative for start-up of application for each repair product. Review the work to be performed with the applicator and Engineer's Site representative.
- C. Formwork:
 - 1. Design of formwork is the responsibility of the Contractor.
 - 2. Provide adequate means of ensuring complete filling of forms with concrete using bird's mouths or other methods.
 - 3. Refer to ACI 347R for assistance with design of formwork.
- D. Mock-ups:
 - 1. Complete mock-ups of:
 - a. Repair cavity preparation.
 - b. Patch repair.
 - c. Rout and seal repair.
 - 2. Obtain Engineer's and Owner's review of mock-up prior to continuing.
 - 3. Mock-ups may be completed as part of Contract Work upon review by Engineer.

E. Testing:

1. Concrete and Prebagged Mixes:
 - a. Cooperate fully with Engineer and the special inspector while they perform special inspections.
 - b. Provide for additional material, time, expense and repair cost to allow testing to be performed.
 - c. Special inspector shall be at the Site for sampling, inspection and testing during concrete repair placement.
 - d. Coordinate with Engineer to be on Site for visual inspections.
 - e. Concrete Repair Material Testing:
 - 1) Perform compressive strength, slump and concrete temperature tests at the point of placement for each batch of ready-mixed concrete and prebagged repair mixes used each day.
 - 2) Mold 3 x 6 compressive strength test specimens in accordance with ASTM C31 and test in accordance with ASTM C39.
 - 3) Perform slump and temperature tests in accordance with ASTM C143 and C1064, respectively.
 - 4) Test 2 cylinders minimum per set of specimens for compressive strength at 7 days and 2 cylinders minimum for compressive strength at 28 days.
 - 5) Mold 2 reserve cylinders for testing at later ages if required.
 - f. Trowel Applied Prebagged Mixes: Make 1 set of three 2-inch cubes from each prebagged mix placed each day to test in accordance with ASTM C109 and Manufacturer's requirements.

1.7 PROJECT CONDITIONS

- A. Provide temporary/mobile air temperature, humidity and ventilation control during the course of this project.
- B. Provide equipment and fuel as required to condition the space for surface preparation, application of products, and curing of those products, in accordance with Manufacturer's requirements.
 1. Equipment may include, but not be limited to, dehumidification, heaters, and fans for intake and exhaust air.
- C. Contractor may use Owner's electrical power for temporary/mobile air system.

1.8 WARRANTY

- A. Installed products under this section shall be fully warranted for a period of five years against defects in materials or workmanship commencing with the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Potable Drinking Water Structures:
 1. Meet the standards required by the applicable approving agency for potable drinking water.
 2. Unless otherwise accepted by that agency, meet the requirements for ANSI/NSF Standard No. 61.
- B. VOC Compliance:
 1. Individual coatings and coating systems shall have VOC levels at or below the EPA recommendations identified in 40 CFR Part 59.
 2. Test VOC content in accordance with EPA Method 24.
- C. Vertical and Overhead (Walls and Ceilings) Trowelable Concrete Repairs:
 1. Prebagged products.
 2. Sika Repair SHB.
 3. Sika Repair 224.
 4. Euclid Verticoat Supreme.
- D. Horizontal (Slabs) Trowelable Concrete Repairs:
 1. Prebagged Products:
 - a. SikaTop 122+.
 - b. Euclid Concrete-Top Supreme.

- E. Structural Injection Resins:
 - 1. Sikadure 52 by Sika Corp.
 - 2. Denepox I 300 by DeNeef.
 - 3. ULV140 by ThoRoc.
 - 4. Sure Inject by Dayton-Superior.
 - 5. Associated Construction Services (Niles Lennerth); 616.235.2432.
 - 6. Rick's Mobile Wash/Caulking; 616.247.1633 (cell).
 - 7. Wicks Caulking; 616.885.4631 (cell).
- F. Water Reactive Injection Polyurethane Sealants:
 - 1. Hydrophobic:
 - a. Webac (Seal Boss) 1572.
 - b. DeNeef Flex LV.
 - c. Sika Fix HH LV.
 - d. Or equal.
- G. Crack Repair Rout and Seal:
 - 1. Sikaflex 2CNSEZ Mix.
 - 2. Tremco Vulkem 240FC.
 - 3. Euclid: Eucolastic II non sag.
- H. Corrosion Inhibitor:
 - 1. For surface application on reinforcing bars:
 - a. Sika Armatec 110 Epo Cem by Sika.
 - b. Dural Prep AC by Euclid.
- I. Steel Reinforcing:
 - 1. Reinforcing Bars: ASTM A615, yield stress $F_y = 60,000$ psi.
 - 2. Welded Wire Fabric: ASTM A185 or A1064, yield stress $F_y = 65,000$ psi.
- J. Provide primers as required in accordance with Manufacturer's recommendations.

PART 3 - EXECUTION

3.1 GENERAL

- A. Installation: In accordance with Manufacturer's recommendations.
- B. Inspection: Do not install patching or reinforcing material until [Engineer] [special inspector] has inspected the repair location.
- C. Temporary Shoring:
 - 1. May be required at slab, beam, joist, or column repairs.
 - 2. Review marked removal and preparation areas and request clarification by Engineer for shoring requirements in questionable areas.
 - 3. In areas requiring shores, place shores prior to concrete removal and cavity preparation.
 - 4. Provide catch platform for removed concrete if necessary to prevent damage to portions of the Site to remain.
- D. Waste: Remove material from Site and dispose of legally.

3.2 CONCRETE REPAIRS

- A. General:
 - 1. Delaminated Areas:
 - a. Examine cavities prior to commencement of patching operations.
 - b. Sound surfaces as part of examination.
 - c. Remove delamination noted during sounding as specified in this Section.
 - d. Once located, further sound delaminations to define limits.
 - e. Mark limits with chalk or paint.

- f. Remove concrete from within marked limits to minimum depth of 3/4-inch using 15 pound maximum electric or pneumatic chipping hammers or hand tools.
 - g. If delaminations exist beyond minimum removal depth, continue chipping until unsound and delaminated concrete has been removed from cavity.
 - h. Engineer will define and mark additional unsound concrete areas for removal, if required.
- 2. Spalls:
 - a. Locate spalls by visual inspection.
 - b. Mark boundaries with chalk or paint after sounding surface.
 - c. Engineer will define and mark additional unsound concrete areas for removal, if required.
- 3. Embedments:
 - a. Locate and determine depth of embedded reinforcement. electrical conduit and other embedments in repair area.
 - b. Mark these locations for reference during concrete removal.
 - c. Where embedded reinforcement or electrical conduit is exposed by concrete removal, exercise caution to avoid damaging it during removal of unsound concrete.
 - d. Repair damage to embedments due to removal operations in accordance with building code requirements at no cost to the Owner.
 - e. Embedded materials which are defective prior to construction may be repaired or replaced by Contractor or abandoned at Owner's option and cost.
- 4. Sawcut Edges:
 - a. For vertical and overhead surfaces sawcut marked limits to depth of 1/2-inch to 5/8-inch into existing concrete, measured from original surface.
 - b. Make sawcut edges straight and patch areas square or rectangular-shaped.
 - c. Diamond blade saws or grinders with abrasive disk suitable for cutting concrete are acceptable for performing work.
 - d. Dress edge cut at delamination limits perpendicular to member face and uniform depth, for length of cut.
 - e. Exercise caution during saw cutting to avoid damaging existing reinforcement, electrical conduit and other embedded items near surface of concrete.
 - f. Repair damage to existing reinforcement or other embedment caused by Contractor at no additional cost to Owner.
- 5. Clearance:
 - a. Remove concrete to provide minimum of 3/4-inch clearance on all sides of defective or damaged exposed embedded reinforcement that is left in place.
 - b. Provide minimum of 1-1/2-inch concrete cover over new and existing reinforcement.
 - c. Concrete cover over reinforcement may be reduced to 1-inch with Engineer approval if coated with a reviewed epoxy resin.
- 6. Preparing Cavities:
 - a. Sandblast cavities; water blasting is prohibited.
 - b. Remove deleterious materials such as damaged concrete, corrosion, laitance, dirt and grease from concrete surfaces.
 - c. Roughen surface to CSP-7 as defined by the ICRI.
 - d. Air blast as final step, to remove sand.
 - e. Apply corrosion inhibitor on full circumference of reinforcing bars.
- 7. Rectangular Areas:
 - a. Prepare areas to be removed as straight and rectangular as practical to encompass repair and provide neat patch.
 - b. Avoid acute angles on patch.
- 8. Reinforcement Repair:
 - a. Supplement defective or damaged embedded reinforcement by addition of reinforcement of equal diameter with Class "B" minimum splice in accordance with ACI 318 extending beyond damaged portion of reinforcement.
 - b. Secure new reinforcement to existing reinforcement with wire ties or approved anchors into concrete, or both.
 - c. Install supplemental reinforcement in accordance with ACI 318 and ACI 301.
 - d. If rust is present on embedded reinforcement where it enters sound concrete, perform additional concrete removal along and beneath reinforcement.

- e. Continue additional removal until non-rusted reinforcement is exposed. Concrete removal may be terminated as Engineer directs.
 - 1) If bond between exposed embedded reinforcement and adjacent concrete is impaired by removal operations, perform additional removal around and beyond perimeter of reinforcement for minimum of 3/4-inch along entire length affected at no cost to Owner.
 - 2) Remove rust from the full circumference of reinforcement.
 - f. Defective Reinforcement:
 - 1) Embedded reinforcement exposed during surface preparation that has lost more than 10% of original cross-section due to corrosion.
 - 2) Exposed reinforcement that has lost section to extent specified as direct result of Contractor's removal operations.
 - g. Clean exposed rusted steel to bare metal by sandblasting; water blasting is not allowed.
 - h. Complete cleaning immediately before patch placement to ensure that base metal is not exposed to elements and further rusting for extended periods of time.
 - i. Securely anchor loose reinforcement exposed during preparation prior to patch placement.
 - j. Drilled-in anchors shall be reviewed by Engineer.
 - k. Engineer will determine adequacy of wire ties and approve other anchoring devices prior to their use.
 - l. Securing loose reinforcement is incidental to surface preparation and no additions to the Contract Sum will be allowed for this work.
9. Inspection of Repair Preparation:
- a. Inspection:
 - 1) After removals are complete, but prior to final cleaning, inspect cavity and exposed reinforcement and obtain Engineer's review for compliance with requirements of this Section.
 - 2) Where Engineer finds unsatisfactory cavity preparation, perform additional removals. Engineer will verify areas after additional removals.
 - b. Defects:
 - 1) Inspect embedded reinforcement and conduits exposed within cavity for defects due to corrosion or damage resulting from removal operations.
 - 2) Notify Engineer of defective and damaged reinforcement, conduits or other embedments.
 - 3) Replace damaged or defective embedments according to this Section and as directed by Engineer.
10. Provide other preparation as required by the Manufacturer of the patching compounds.
11. Inform Engineer at least 2 days in advance of concrete repair placement to allow adequate time for Engineer to schedule inspection.
12. Use form and fill method, trowel on fill method, or shotcrete fill method, as Manufacturer recommends.
13. Pre-dampen cavity surface with clean water to a saturated surface dry (SSD) condition with no free water.
- a. Provide 24 continuous hours of poured water on horizontal surface cavities and 24 continuous hours of sprinkler wetting on vertical surface cavities immediately prior to placement of concrete repair material.
14. Place concrete continuously at each repair area until reinforcing steel is encapsulated, forms are full and air pockets are eliminated.
15. Utilize vibrators to assist in consolidating concrete.
- a. Do not over vibrate concrete.
 - b. Concrete over vibration (concrete segregation) will be cause for rejection of the work.
 - c. Refer to ACI 309R for assistance with the selection, numbers and use of vibrators.
16. Protect freshly applied concrete from premature drying and maintain with minimal moisture loss at a relatively constant temperature for a minimum of 7 days.
17. Use a form release agent that is compatible with specified curing compounds.
18. Leave forms in place for a minimum of 3 days.
19. Immediately after removing forms, either wet cure or apply at least 2 coats of curing compound in accordance with Manufacturer's recommendations.
20. 14 days or later after installation of repairs, sound repaired concrete in presence of Engineer. Remove delaminated or otherwise unsound concrete encountered and place new repair concrete.
- B. Floor Slabs:
- 1. Sound designated floors for delaminations.
 - 2. Locate delaminations by sounding surface with hammer, rod, or chain drag.
 - 3. When delaminated area is struck, a distinct hollow sound will be heard.

- C. Vertical and Overhead Surfaces:
 - 1. Locate delaminations by sounding appropriate member with hammer or rod.
 - 2. Cracks, usually horizontal in orientation along beam faces, and vertical in orientation near column corners are indicators of delaminated concrete.
- D. Crack Repair:
 - 1. Refer to Drawings for specific criteria for crack repair.
 - 2. Follow sealant Manufacturer's specific guidelines where more stringent than those specified herein.
 - 3. Seal cracks the same day as they are prepared.
 - 4. Utilize a dry process to rout cracks.
- E. Coat and Protect:
 - 1. After sandblasting operations and cleanup are completed, paint exposed steel with the reviewed epoxy.
 - 2. Protect prepared surfaces from damage prior to and during patch placement.

3.3 CRACK INJECTION

- A. Preparation:
 - 1. With Owner's representative, identify cracks and cold joints on the Site requiring crack injection.
 - 2. Ensure cracks and adjacent substrate are clean, sound and free of frost.
 - 3. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, efflorescence and other bond inhibiting materials from the surface by mechanical means, such as high pressure water blasting, or other methods as recommended by the Manufacturer.
- B. Injection Ports:
 - 1. Locate injection ports directly on the crack or drill them along the side of the crack at 45 degrees.
 - 2. Drill the hole to intersect the crack midway through the substrate.
 - 3. Install the injection packers (ports) in the holes.
 - 4. Install injection ports and grout ports as recommended by the product Manufacturer.
 - 5. Space injection ports as required to achieve travel of the adhesive for the pressure injection grouting between ports and to completely fill the cracks.
 - 6. Stagger ports each side of the crack.
- C. Injection:
 - 1. Mix injection products which are composed of individual components in accordance with the Manufacturer's recommendations.
 - 2. Dispense the adhesive for injection under constant pressure in accordance with procedures recommended by the equipment Manufacturer or as required to achieve maximum filling and penetration of the prepared cracks without the inclusion of air pockets or voids in the adhesive.
 - 3. Begin injection of adhesive into each crack at the entry port at the lowest elevation.
 - 4. Continue injection at the first port until the injection adhesive begins to flow out of the port at the next highest elevation or until the material is flowing out of the crack between these ports.
 - 5. Upon completion, remove injection packers, clean ports and grout holes.

3.4 PROTECTION

- A. Enclosures:
 - 1. If recommended by Manufacturer construct a weather-tight enclosure around the exterior of the surface to be repaired, to control temperature.
 - 2. The enclosure shall be of such quality as to maintain optimal conditions for the repair work.
 - 3. The enclosures shall remain until the repair work is sufficiently cured.
- B. Equipment:
 - 1. Provide as required to condition the space for repair work.
 - 2. Equipment may include, but not be limited to, heaters, dehumidification, and fans for intake and exhaust air.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Engineer: Check work.
- B. Promptly make corrections, changes, and additions required by Manufacturer's engineer.

3.6 CLEANING

- A. Clean materials installed under this Section in accordance with Division 01 Section "Cleaning and Waste Management."

END OF SECTION 03 01 33

SECTION 09 91 00 – PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the furnishing and application of coating products, such as paints, stains and sealers, and labeling products.
 - 1. Surfaces to be painted or finished include, but are not necessarily limited to, the following existing surfaces specifically identified herein or on the Drawings:
 - a. Ferrous metals, hangers, structural steel and joist framing.
 - b. Galvanized steel.
 - c. Exposed pipe and fittings including wall and floor sleeves (if pipe is insulated, insulation shall be painted).
 - d. Exposed pipe, fittings, and pipe supports including surfaces between pipes and supports.
 - e. All other surfaces not specifically excluded in the following paragraph. A completely finished project is required, regardless of whether every individual item is specified herein or indicated on the Drawings to be painted.
 - 2. Surfaces not to be painted or finished include the following unless otherwise indicated on the Drawings:
 - a. Immersed and non-immersed cast-in-place and precast concrete.
 - b. Interior, below grade walls and ceilings.
 - c. PVC pipe.

1.3 REFERENCES

- A. Except as herein specified or as indicated on Drawings, the work of this Section shall comply with the pertinent provisions of the following:
 - 1. ASME/ANSI: A13.1 - Scheme for the Identification of Piping Systems.
 - 2. ASTM:
 - a. A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 - b. D16 - Terminology for Paint, Related Coatings, Materials, and Applications.
 - c. D520 - Zinc Dust Pigment.
 - d. D523 - Test Method for Specular Gloss.
 - e. D7234 - Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
 - f. F1869 - Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor using Anhydrous Calcium Chloride.
 - 3. Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers:
 - a. Ten States Standards 2.14 - Recommended Standards for Water Works.
 - b. Ten States Standards 54.5 - Recommended Standards for Wastewater Facilities.
 - c. International Concrete Repair Institute: Guideline No. 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
 - 4. Michigan Administrative Code: R 325.51992 Part 603 - Lead Exposure in Construction.
 - 5. NSF/ANSI/CAN Standards:
 - a. 61 – Drinking Water System Components – Health Effects.
 - b. 600 – Health Effects Evaluation and Criteria for Chemicals in Drinking Water.
 - 6. Steel Structures Painting Council (SSPC):
 - a. AB-1 - Mineral and Slag Abrasives.
 - b. PA-1 - Shop, Field, and Maintenance Painting of Steel.
 - c. PA-2 - Procedure for Determining Conformance to Dry Coating Thickness Requirements.
 - d. PA-3 - A Guide to Safety in Paint Application.
 - e. SP-1 - Solvent Cleaning.
 - f. SP-2 - Hand Tool Cleaning (SSI-St2).
 - g. SP-3 - Power Tool Cleaning (SSI-St3).

- h. SP-5 - White Metal Blasting (SSI-Sa3) (NACE #1).
 - i. SP-6 - Commercial Blast Cleaning (SSI-Sa2) (NACE #3).
 - j. SP-7 - Brush-off Blast (SSI-Sa1) (NACE #4).
 - k. SP-8 - Pickling.
 - l. SP-10 - Near-White Blast Cleaning (SSI-Sa2-1/2) (NACE #2).
 - m. SP-11 - Power Tool Cleaning to Bare Metal.
 - n. SP-16 - Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals.
 - o. VIS-1 - Visual Standard for Abrasive Blast Cleaned Steel.
7. United States Department of Labor, Occupational Safety and Health Administration (OSHA): 29 CFR 1926.62.

1.4 DEFINITIONS

A. Terms:

- 1. Coating: Paint, stain, sealer or other product specified.
- 2. Environment:
 - a. Severe: Highly corrosive industrial atmospheres with sustained exposure to high humidity and condensation, frequent cleaning using strong chemicals, heavy concentrations of strong chemical fumes, and frequent splashing and spilling of harsh chemical products.
 - b. Moderate: Corrosive industrial atmospheres with intermittent exposure to high humidity and condensation, occasional mold and mildew development, regular cleaning with strong chemicals, and occasional splashing and spilling of chemical products.
 - c. Mild: Industrial atmospheres with normal exposure to moderate humidity and condensation, occasional mold and mildew development, infrequent cleaning with strong chemicals, low levels of mild chemical fumes, occasional splashing and spilling of chemical products, and normal outdoor weathering.
- 3. Exposure:
 - a. Environmental conditions to which different surfaces may be exposed as follows:
 - 1) Concealed: Surfaces within the confines of a building or other enclosure not constantly exposed to weather, trapped moisture, high heat or other deteriorating conditions, and normally concealed from view.
 - 2) Immersed:
 - a) Surfaces below a liquid surface or exposed to spray.
 - b) Surfaces exposed to spray include areas to 8 inches above maximum liquid surface in quiescent structures and to 18 inches above maximum liquid surface in mixed or agitated structures.
 - c) Immersed surfaces also include the interior surfaces of the floors, walls, and tops of fully or partially enclosed liquid containing structures, regardless of the liquid level.
 - 3) Interior: Surfaces within the confines of a building or other enclosure not immersed or constantly exposed to weather, trapped moisture, high heat or other deteriorating conditions, and exposed to view.
 - 4) Exterior:
 - a) Above Grade: Surfaces above finished grade and not included in 1), 2), or 3) above.
 - b) Below Grade: Surfaces below finished grade and not included in 1), 2), or 3) above.
- 4. Gloss Range (as determined by ASTM D523):
 - a. High Gloss: A high sheen finish of more than 70 when measured at a 60 degree meter.
 - b. Semi Gloss: A medium sheen finish of 35 - 70 when measured at a 60 degree meter.
 - c. Satin: A low-to-medium sheen finish of 15 - 35 when measured at a 60 degree meter.
 - d. Eggshell: A low sheen finish of 20 - 35 when measured at a 60 degree meter.
 - e. Flat: A lusterless or matte finish of less than 5 when measured at an 60 degree meter.

1.5 SUBMITTALS

- A. Manufacturer's Literature: Specification data sheets and color charts for materials proposed for use on the Work. Provide Safety Data Sheets (SDS) as requested by Engineer.

- B. Schedules:
 - 1. Submit a finish schedule indicating rooms and other structures and systems to be coated, items or areas to be coated, the proposed coating system, including surface preparation, primer, intermediate/finish coats, application methods and color charts.
 - 2. Schedule shall be submitted as a complete package.
 - 3. No coatings may be applied until Engineer has made a complete review of the entire submittal.
- C. Manufacturer's Certificates: Submit signed affidavit from coatings Manufacturer that submitted coatings are of same or better quality than those specified, and Manufacturer's approval of applicator.
- D. NSF/ANSI/CAN Certifications: Coating systems in contact with potable water, including water that is a part of a treatment process that will ultimately become potable water, require NSF/ANSI/CAN 61 and 600 certifications. Submit evidence of current product certifications with the requirements of these standards. Certification from Testing Laboratories must demonstrate acceptable credentials to allow them to certify product conformance with the NSF/ANSI/CAN 61 and 600 standards.
- E. Applicator's Experience: Submit written verification of experience required herein.
- F. Product and Maintenance Schedules:
 - 1. At or before the completion of the Work, submit complete lists, in a finish schedule, of the actual products used. Include item covered, coating Manufacturer's name, type of coating and color.
 - 2. Provide pipe coding schedules listing pipe name, coating Manufacturer's name, type of coating and color.
 - 3. Provide maintenance manuals detailing the proper procedures and materials to be used for maintenance and repainting of the various coatings.

1.6 QUALITY ASSURANCE

- A. General:
 - 1. Acceptability of materials and performance shall be determined by Engineer.
 - 2. Testing or certifications may be required to aid Engineer's determination.
 - a. Expense of testing and certifications when required and, unless noted otherwise in the Contract Documents, shall be borne by Contractor.
 - b. If destructive testing is required, Contractor shall repair damaged area. Expense of repair shall be borne by Contractor.
 - c. If initial testing results are unsatisfactory or yield failing results, additional testing will be required. Cost of additional testing shall be borne by Contractor.
 - 3. Coating Reviews:
 - a. Request, in writing, a review of each coat by Engineer of first finished surface of each type for color, texture and workmanship.
 - b. First accepted surface of each type and color shall be visibly labeled by Engineer with removable label as Project standard for that type and color of item.
 - c. Labels shall remain in place until painting is finished and accepted.
 - d. For spray application, paint a surface of 100 square feet as a Project standard.
 - 4. Work may be inspected as to proper surface preparation, pretreatment, priming, dry film thickness, curing, color, and workmanship.
 - 5. Applicable standards, test methods, and inspection equipment includes, but is not necessarily limited to the following:
 - a. SSPC-VIS-1 photographic blast cleaning standards (latest revision).
 - b. Inspector's wet film and dry film thickness gages.
 - c. Zorelco 369/PHD pin hole detector.
 - d. Mark II Tooke Gage.
- B. Coating Subcontractors:
 - 1. Applicators shall have experience with the coating systems specified.
 - 2. Experience shall be substantiated by previous project experience, certifications, seminar attendance, Manufacturer validation, or similar means.

- C. Pre-Application Meeting:
1. Convene a pre-application meeting before the start of work and prior to ordering materials.
 2. Require attendance of parties directly affecting work of this Section, including Engineer, applicator and coating Manufacturer's technical representative.
 3. Review the following as a minimum:
 - a. Access and safety requirements.
 - b. Heating, ventilation and humidity control measures to be utilized.
 - c. How application information will be monitored and recorded, including responsible personnel, monitoring equipment, forms, and timely reporting of information recorded.
 - d. Protection of surfaces not scheduled to be coated.
 - e. Schedule of work.
 - f. Surface preparation.
 - g. Coating application.
 - h. Daily log to be used.
 - i. Repairs anticipated.
 - j. Applicator's field quality control.
 - k. Cleaning procedures.
 - l. Testing procedures.
 - m. Protection of coating systems.
 - n. Coordination with Owner's activities.
- D. Manufacturer's Services:
1. Arrange for Manufacturer's technical representative to provide the services indicated below.
 2. Site Visits by the Manufacturer's Technical Representative:
 - a. The pre-application meeting.
 - b. A visit to observe surface preparation and review application techniques of components of the system.
 - c. A visit to review the completed installation.
 3. Generally provide assurance and guidance for the entire coating system installation.
 4. Written documentation required from the coating system Manufacturer:
 - a. A letter of acknowledgement that the coating system materials are specified to be used in a location and for a purpose that meets with the approval of the coating system Manufacturer and the intent of the Contract Documents. The signed letter shall certify that the Manufacturer's technical representative:
 - 1) Is familiar with the Project, has attended meetings and is aware of the Project conditions and aware of associated products (i.e. filler resurfacer, primers, coatings and other products proposed for the Project).
 - 2) Agrees with the intended application of their products as specified.
 - 3) Agrees with the surface preparation specified, as completed.
 - 4) Agrees with the specifications. If necessary, submit revisions to specifications.
 - 5) Agrees that their products are compatible with associated products (i.e. concrete repair materials, existing coating systems, and other products proposed for the Project).
 - 6) Agrees with the type and quantity of testing to be performed, to ensure their product is adequately installed.
 - 7) Approval of surface preparation prior to proceeding with subsequent work.
- E. Installation Subcontractor's Supervising Site Representative:
1. On Site during work being performed.
 2. Knowledgeable of all aspects of the work.
 3. Review each day's agenda with crew, and with Contractor's and Engineer's Site representatives.
 4. If a portion of the work becomes unclear as to the most appropriate direction, work shall stop until a consensus is reached by all parties, including the Engineer's representative and the Manufacturer's technical representative, as required.
- F. Applicator's Project Record:
1. Applicator shall maintain a record for each day work is performed, and shall include a record of application process information. At a minimum, applicator's record shall include:
 - a. Material Manufacturer's batch numbers.
 - b. Surfaces to which material is applied.
 - c. Time of application.
 - d. Ambient temperature.
 - e. Substrate temperature.

- f. Substrate moisture.
 - g. Relative humidity.
 - h. Dew point temperature.
 - i. Use of heating, dehumidification and ventilation equipment.
 - j. Unusual or important conditions, features, or events that occur before, during or after work is performed that day. Such information shall be referred to on previous or subsequent daily reports, when appropriate.
2. Submit for Project record.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original sealed containers of the Manufacturer with labels legible and intact. Include the following on labels on each container:
 1. Manufacturer's name.
 2. Type of coating.
 3. Manufacturer's stock number.
 4. Manufacturer's batch identification.
 5. Color name and number.
 6. Instructions for mixing and reducing, where applicable.
 7. Percent total solids by volume.
 8. Identification of toxic substances and special instructions.
 9. VOC content.
- B. Storage:
 1. Store materials in tightly covered containers at a minimum ambient temperature of 45 degrees F.
 2. Store materials in a well ventilated area and in such a manner as to comply with safety requirements including applicable federal, state, and local rules and requirements.
 3. Storage shall also be in accordance with instructions of the paint Manufacturer and requirements of insurance underwriters.
 4. Maintain storage containers in a clean condition, free from foreign materials and residue:
 - a. Protect from freezing.
 - b. Keep storage area neat and orderly.
 - c. Remove oily rags and waste daily and dispose of legally.
- C. Handle volatile products carefully and use caution so as not to puncture containers. Keep open flame away from areas while handling containers and be aware of material flash points.

1.8 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Waterborne Paints:
 - a. Apply only when temperature of surface to be painted and surrounding air are between 50 and 90 degrees F.
 - b. Maintain temperature range throughout the minimum cure time recommended by the Manufacturer.
 2. Solvent-Thinned Paints:
 - a. Apply only when temperature of surface to be painted and surrounding air are between 45 and 95 degrees F.
 - b. Maintain temperature range throughout the minimum cure time recommended by the Manufacturer.
 3. Inclement Weather:
 - a. Do not apply paint:
 - 1) In snow, rain, fog, or mist.
 - 2) When relative humidity exceeds 85%.
 - 3) When steel temperature is less than 5 degrees F above the dew point.
 - 4) To damp or wet surfaces.
 - b. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the Manufacturer during application and drying periods. Refer to Article 1.7 for further restrictions.

- B. Existing Painted Surfaces:
 - 1. When painting is specified over existing painted surfaces and existing coating types are not known, analyze samples of existing coatings using a laboratory approved by Engineer to determine generic type of coating present and the presence of lead.
 - 2. Submit written report from the lab to Engineer before coating is applied.
 - 3. Required modifications to painting schedule caused by existing paint shall not be justification for extra payment.
 - 4. Existing Coat Bonding Failure:
 - a. Remove existing coating by abrasive blasting or other means, obtaining surface cleanliness and profile required for coating specified without damaging the substrate to the point of affecting its appearance.
 - b. Paint as new surface.
 - c. Unforeseen failure conditions may be justification for extra payment.
- C. Epoxy Coatings:
 - 1. Do not expose epoxies during application and cure to sunlight and heaters that emit carbon dioxide and carbon monoxide.
 - 2. Use caution when applying and curing epoxy coatings to ensure that surrounding areas are not occupied and that adequate ventilation and fresh air are present.
- D. Contractor shall demonstrate acceptability of environmental conditions as required by Engineer.

1.9 EXTRA MATERIALS

- A. Leave with Owner at least 1 gallon of each type and color of paint used for finish coats and 1 gallon of each type of thinner required.
- B. Containers shall be tightly sealed and clearly labeled.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Coatings:
 - a. Tnemec.
 - b. Carboline.
 - c. International Paint.
 - d. Sherwin Williams.
- B. Single Manufacturer:
 - 1. Materials selected for coating systems for each type of surface shall be the product of a single Manufacturer.
 - 2. Provide primers and undercoats produced by the same Manufacturer as the finish coats.

2.2 MATERIALS

- A. Material Types:
 - 1. NSF/ANSI/CAN Standards Certification:
 - a. Coating systems in contact with potable water, including water that is a part of a treatment process that will ultimately become potable water, require NSF/ANSI/CAN 61 and 600 certifications.
 - b. Products represented by manufacturers to have NSF/ANSI/CAN 61 and 600 have been included in the painting schedule, where the intended use requires products to meet the requirements of those standards. However the listing of a product is not a representation by the Engineer that the product has the current certifications. Submittal of current certifications is a requirement.
 - c. Proposed substitutions shall also carry NSF/ANSI/CAN certifications for specific applications.
 - d. Verify that coating systems utilized carry NSF/ANSI/CAN certifications, where such certifications are required. Provide product currently certified at no extra cost to Owner.
 - 2. Paint, primer and related materials are included in the painting schedule in this Section.
 - 3. Paint used for repair of galvanizing shall have minimum 95% zinc dust in accordance with ASTM D520.

- B. Colors: Colors of finish coats shall be as selected by Engineer.
- C. Blast Abrasives:
 - 1. Level of ionic contaminants shall be in accordance with SSPC-AB 1.
 - 2. Products and Manufacturers:
 - a. Magnum Blast by Dust Net, Wedron, Illinois.
 - b. Black Magnum by Dust Net, Wedron, Illinois.
 - c. Black Beauty by Reed Minerals, Highland, Indiana.
- D. VOC Compliance:
 - 1. Individual coatings and coating systems shall have VOC levels at or below the EPA recommendations identified in 40 CFR Part 59.
 - 2. VOC content shall be tested in accordance with EPA Method 24.

2.3 MIXES

- A. Mixing:
 - 1. Deliver paints to the Site ready-mixed, when possible.
 - 2. Mix two-component paints at the Site and observe pot life as recommended by Manufacturer.
 - 3. Proceed with mixing until paint becomes smooth, homogeneous, and free of surface swirls or pigment lumps.
 - 4. When mixing multi-component paints, remix each component individually, then blend the components, as recommended by the Manufacturer, until the mixture is completely uniform in color.
- B. Thinning:
 - 1. No thinning will be permitted unless absolutely necessary.
 - 2. Paint shall be spray-applied in as-received condition to demonstrate necessity for thinning.
 - 3. Use only thinners as recommended by paint Manufacturer for specific use.
 - 4. Amount of thinner used shall be reported to Engineer.
 - 5. Measure viscosity to ensure proper thinning ratios have been used.
- C. Tinting:
 - 1. Onsite tinting will be permitted only when accepted in writing by Engineer.
 - 2. Use only tinting colors recommended by the Manufacturer for the specific type of coating.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspection:
 - 1. Prior to the commencement of surface preparation or other coating activities, thoroughly inspect the surfaces to determine if the Work is ready to be prepared and painted.
 - 2. Report in writing to Engineer conditions that may potentially affect proper application.
 - 3. Do not commence surface preparation or other coating activities until such defects have been corrected.
- B. Correction of Defects:
 - 1. Correct defects and deficiencies in surfaces which may adversely affect work of this Section.
 - 2. Apply filler resurfacers, patching materials and the like that are required to provide the surface recommended by the coating Manufacturer.
 - 3. Start of painting will be construed as the applicator's acceptance of surfaces and conditions within a particular area.

3.2 TEMPORARY HEATING, VENTILATION AND HUMIDITY CONTROL REQUIREMENTS

- A. General:
 - 1. Ventilation is mandatory.
 - 2. Provide ventilation that exhausts fumes and odors to the exterior at a location where existing HVAC systems will not pick up these fumes and odors.
 - 3. Provide negative air pressure to those spaces receiving coatings without reducing air temperatures in those spaces which may impede the curing process of those coating systems.

4. Ventilation is required during surface preparation, application of coating systems, and the curing period for those systems.
5. Provide additional equipment and fuel as required to condition the space for surface preparation, application of products, and curing of those products, in accordance with Manufacturer's requirements. This equipment may include, but is not limited to, heaters, dehumidifiers and fans for intake and exhaust air.

B. Enclosures:

1. Provide temporary enclosures as required to isolate dust, fumes and odors from areas in use, to control temperature and humidity, and to protect surface to be coated from the weather.
2. The enclosure shall be of such quality as to maintain optimal conditions for the work of this Section.
3. The enclosure shall remain until the work is sufficiently cured.

3.3 PREPARATION

A. General:

1. Prepare surfaces in accordance with this Article, the paint Manufacturer's recommendations and as specified in the painting schedule of this Section.
2. Cleanliness of Abrasive Blast-Cleaned Steel:
 - a. Determined by Engineer using Steel Structures Painting Council Manual SSPC-VIS-1.
 - b. Small steel panels which have been abrasive blast-cleaned and approved for a specific cleanliness may be used for comparative purposes to facilitate inspection and approval.
 - c. Securely wrap these panels in clear plastic, seal to protect them from deterioration and mark with appropriate SSPC-SP6 cleaning specification.
3. Cleanliness of Compressed Air:
 - a. Do not use contaminated air for blast cleaning.
 - b. Periodically check compressed air used for blasting to verify that it is clean, dry and oil-free by directing its flow toward a sheet of clean white paper.
4. Place oil and water separators in the air line as close as possible to blast-cleaning equipment. Make measurements of surface profile of abrasive blast-cleaned steel with a Keane-Tator Surface Profile Comparator or Testex Press-O-Film and Micrometer.
5. Abrasive Media:
 - a. Select abrasive media to provide the type of profile required by the Manufacturer of the coating product.
 - b. Abrasive media shall contain less than 5% free silica sand.
6. Protective Covers:
 - a. Protect motors, bearings, chain drives, and other moving parts by wrapping with plastic and sealing with tape.
 - b. Maintain protective covers in dust tight condition.
7. Correct steel and fabrication defects revealed by surface preparation, such as weld imperfections, delamination, scabs, and slivers, by appropriate trade before proceeding further with surface preparation.
8. Clean Up of Blast Cleaned Areas:
 - a. Remove dust and blast products from the abrasive blast-cleaned surfaces by high pressure air or vacuum cleaning.
 - b. Completely clean up residue from blasting operations within the entire space to be painted prior to applying coatings.
9. Inspect surfaces after surface preparation is complete and prior to application of coatings.
10. Remove hardware, accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface applied protection prior to surface preparation and painting, and then replace items after paint has dried.
11. When acid etching is the approved means of preparing surfaces for coating systems, protect the surrounding areas. Neutralize dispensed solutions and dispose of properly.

B. Moisture Testing of Concrete and Masonry Surfaces:

1. Securely tape a 12-inch x 12-inch piece of heavy gage plastic film to the surface in various locations.
2. Carefully seal the film with tape to prevent the escape of moisture and keep in place for a minimum of 16 hours.
3. If, after this period of time, moisture is present between the plastic and the surface, additional time for the material to dry will be required. Also, it may be appropriate to execute other means of testing for moisture.

4. Other Means of Testing for Moisture:
 - a. ASTM F1869.
 - b. Qualifying moisture meters capable of reading 2 to 100% moisture content on a surface.

C. Ferrous Metals:

1. Non-Immersed Ferrous Metals:
 - a. Surface Preparation - Shop:
 - 1) Remove dirt, oil, grease and other foreign matter in accordance with SSPC-SP1.
 - 2) Abrasive blast clean surfaces to specification required for coating to be applied.
 - 3) Perform abrasive blast cleaning only when the relative humidity is no higher than 75% and the surface temperature of the steel is at least 5 degrees F above the dew point.
 - 4) Coat cleaned surfaces before visible rust forms on the surface. Do not leave cleaned surfaces uncoated for more than 24 hours.
 - 5) Apply coating as specified under this Section.
 - b. Surface Preparation - Field:
 - 1) Remove dirt, oil, grease and other foreign matter in accordance with SSPC-SP1.
 - 2) Prepare field welds by grinding to remove sharp edges, undercuts, recesses and pin holes.
 - 3) Completely remove weld slag and spatter.
 - 4) Thoroughly clean damages, scratches and abraded areas of shop primers. Thoroughly clean field welds and areas within 4 inches of field welds before painting using surface preparation methods at least as effective as those specified for the structure itself.
 - 5) Feather out edges to make touch-up patches inconspicuous.
 - 6) Clean surfaces with solvent.
 - 7) Contractor may, at Contractor's option, clean and apply one overall coat of primer for each specified shop coat in place of touch-up or spot priming.
 - 8) Contractor shall meet applicable surface preparation and application specifications.
2. Immersed Ferrous Metals:
 - a. Surface Preparation - Field:
 - 1) Remove dirt, oil, grease and other foreign matter in accordance with SSPC-SP1.
 - 2) Prepare field welds by grinding to remove sharp edges, undercuts, recesses, and pin holes.
 - 3) Completely remove weld slag and spatter.
 - 4) Abrasive blast clean surfaces to specification required for coating to be applied.
 - 5) Perform abrasive blast cleaning only when the relative humidity is no higher than 75% and the surface temperature of the steel is at least 5 degrees F above the dew point.
 - 6) Coat cleaned surfaces before any visible rust forms on the surface.
 - 7) Do not leave cleaned surfaces uncoated for more than 24 hours.
 - 8) Apply coating as specified under this Section.

3.4 APPLICATION

A. General:

1. Take necessary safety precautions in accordance with this Article, SSPC-PA Guide 3, Manufacturer's recommendations, federal, state, and local rules and requirements, and insurance underwriter's guidelines.
2. Apply coatings in accordance with this Article, SSPC-PA1, and the Manufacturer's recommendations.
3. Moisture Content:
 - a. Do not apply initial coating until moisture content of surface is within limitations recommended by paint Manufacturer.
 - b. Determine moisture content by one of the following methods:
 - 1) As specified herein.
 - 2) By use of a moisture meter approved by Engineer.
4. Mil Thickness:
 - a. Apply coats in a uniform manner and of the minimum dry film thickness as indicated in the painting schedule.
 - b. Maximum mil thickness shall be as recommended by coating Manufacturer.
 - c. Where the mil thickness is not indicated in the painting schedule, it shall be as recommended by coating Manufacturer.
5. Sand and dust between each coat to remove defects visible from a distance of 5 feet.
6. Additional Coats:
 - a. Apply within recoat recommendation of the Manufacturer based on temperature and humidity variations.
 - b. Schedule inspections so as to not interfere with recoat time.

7. Each coat shall be smooth, free of brush marks, streaks, laps or pile-up of paint, and skipped or missed areas.
8. Make edges of paint adjoining other materials or colors clean and sharp with no overlapping.
9. Spray apply coatings on hollow metal units.
10. Finish door tops, edges, and bottoms the same as exposed surfaces.
11. Except for contact surfaces, surfaces of fabricated assemblies that are inaccessible after erection shall receive field coats of paint before erection.
12. Ensure that concrete cracks and defects have been repaired prior to applying coating, then fill remaining depressions and crevices with paint if practical.
13. Protect wet paint against damage from dust or other detrimental foreign matter as much as is practicable.
14. Remove grills, covers, and access panels of mechanical and electrical systems and tanks from location and paint separately.
15. Paint the interior surface of ducts flat black in the immediate area of supply and exhaust grilles.
16. Omit application of masonry filler on acoustical masonry.
17. Coat concrete and masonry walls prior to mounting equipment.
18. Where equipment, piping, conduit or the like are removed from an existing painted surface, patch and paint the newly exposed surface as required so the newly exposed surface matches surrounding surfaces in coating and appearance.
19. Where epoxy coatings are scheduled over existing paint:
 - a. Test existing paint and substrate for lifting or alligatoring.
 - b. If existing paint lifts or alligators, remove it down to bare substrate.
20. Where a portion of a surface is to be coated, carry the coating to the nearest break point in the surface plane beyond the portion specified.

B. Valves, Fittings, and Supports:

1. Paint valves and fittings the same base color as the pipe they adjoin.
2. Paint floor stands the same base color as the pipe they adjoin.
3. Wall Brackets and Pipe Hangers:
 - a. Paint the same base color as the wall or ceiling they adjoin.
 - b. Use gray color if wall or ceiling is not painted.

3.5 PIPE AND EQUIPMENT IDENTIFICATION

A. General:

1. Identify non-buried piping installed as part of the Work in accordance with ASME/ANSI A13.1, this Section, as required in the pipe identification schedule, and as indicated on the Drawings.
2. Painting or banding of concealed piping above suspended ceilings is not required, but labels as specified following are required.
3. Identify pumps, tanks, and equipment.

B. Color Bands:

1. Where color bands are indicated for piping identification, use colored vinyl tape spaced every 6 feet, before and after each valve and where pipe enters and leaves each wall.
2. Band Widths:
 - a. Pipe up to and including 2-inch diameter: 3/4-inch wide.
 - b. Pipe 2-1/2-inch to 6-inch diameter: 2 inches wide.
 - c. Pipe 8-inch to 12-inch diameter: 4 inches wide.
 - d. Pipe 14-inch diameter and over: 6 inches wide.

C. Labels and Arrows:

1. Label pipes at intervals not to exceed 20 feet and where pipe enters and leaves each wall, to identify the contents of the pipe as determined by Engineer.
2. Place an arrow adjacent to every pipe label to indicate direction(s) of flow.
3. Use preprinted labels and arrows manufactured by a company which normally manufactures pipe identification systems.
4. Supply pipe labels, arrows, and color bands by a single Manufacturer.
5. Labels and Arrow Heights:
 - a. Pipe or Covering Over 3-inch Diameter: 2-1/4 inches.
 - b. Pipe or Covering 1-inch to 3-inch Diameter: 1-1/8 inches.
 - c. Pipe or Covering Under 1-inch Diameter: 1/2-inch.

6. Materials shall be suitable for the use intended.
7. Label pumps, tanks, and equipment items, including description and tag number, with lettering size coordinated with Engineer depending on equipment size.

3.6 FIELD QUALITY CONTROL

- A. Inspection:
 1. To facilitate painting and inspection, each coat of paint shall be of a different color or tint.
 2. Finished metal surfaces shall be free of skips, voids or pinholes in each coat when tested with a low voltage detector.
 3. Do not apply additional coats until previous coat has been inspected and acknowledged in writing by Engineer.
 4. Only coats of paint acknowledged in writing will be considered in determining number of coats applied.
- B. Final Touch-Up:
 1. Surface damage shall be repaired with touch-up paint matching material used for original coating.
 2. Repaired areas shall be rubbed out and polished to match surrounding finish.
 3. Finish repair shall be of the quality typically found within the auto body industry.

3.7 CLEANING

- A. Remove spilled, splashed, or spattered paint from surfaces.
- B. Do not mar surface finish of item being cleaned.
- C. Prior to acceptance of the work of this Section, thoroughly clean painted surfaces and related areas in accordance with Division 01 Section "Cleaning and Waste Management."

3.8 PROTECTION

- A. General:
 1. Adequately protect other surfaces from paint and damage.
 2. Repair damage as a result of inadequate or unsuitable protection.
- B. Protective Materials: Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.
- C. Fire Hazards: Place cotton waste, cloths, and materials which may constitute a fire hazard in closed metal containers and remove daily from Site.

3.9 PAINTING SCHEDULE

- A. See finish schedule on Drawings for further information.

B. All mil thicknesses indicated are dry film thicknesses (DFT).

1. Interior Ferrous Metals – Non-Immersed: Gloss Zinc/Aliphatic Acrylic Polyurethane System:

System Manufacturer	Surface Preparation	First Coat	Second Coat	Third Coat
Tnemec	(Shop): SSPC-SP6 commercial blast cleaning	(Shop) and (Field Touch-up, Prime): 90-97 Tneme-Zinc 2.5-3.5 Mils	(Field): 69-Hi-Build Epoxoline 4.0-6.0 Mils	(Field): 1094 Endura-Shield 3.0-5.0 Mils
Carboline	(Shop): SSPC-SP6 commercial blast cleaning	(Shop) and (Field Touch-up, Prime): Carbozinc 859 2.5-3.5 Mils	(Field): Carboguard 890 4.0-6.0 Mils	(Field): Carbothane 134HG 3.0-5.0 Mils
International Paint	(Shop): SSPC-SP6 commercial blast cleaning	(Shop) and (Field Touch-up, Prime): CATHCOAT 302 H Reinforced Inorganic Zinc (78%) 2.5-3.5 Mils	(Field): BAR-RUST 235 Epoxy Mastic 4.0-6.0 Mils	(Field): DEVTHANE 379/H Aliphatic Urethane Gloss 3.0-5.0 Mils
Sherwin Williams	(Shop): SSPC-SP6 commercial blast cleaning	(Shop) and (Field Touch-up, Prime): Corothane Galvapac 1K 2.5-3.5 Mils	(Field): Macropoxy 646 FC 4.0-6.0 Mils	(Field): Acrolon 218HS/HS Polyurethane 3.0-5.0 Mils

2. Metals – Immersed (Potable Water Systems): Satin Polyamidoamine Epoxy System

System Manufacturer	Surface Preparation	First Coat	Second Coat
Tnemec	(Field): SSPC-SP10 near-white blast cleaning	(Field): 21 Epoxoline 3.0-5.0 Mils	(Field): 21 Epoxoline 4.0-6.0 Mils
Carboline	(Field): SSPC-SP10 near-white blast cleaning	(Field): Carboguard 891 VOC 3.0-5.0 Mils	(Field): Carboguard 891 VOC 4.0-6.0 Mils
International Paint	(Field): SSPC-SP10 near-white blast cleaning	(Field): BAR-RUST 233H Multi-Purpose Epoxy 5.0-6.0 Mils	(Field): BAR-RUST 233H Multi-Purpose Epoxy 5.0-6.0 Mils
Sherwin Williams	(Field): SSPC-SP10 near-white blast cleaning	(Field): Sherplate 600 3.0-5.0 Mils	(Field): Sherplate 600 4.0-6.0 Mils

3. Metals – Immersed (interior of potable water system pipe): Modified Polyamine or Satin Polyamidoamine Epoxy System

System Manufacturer	Pipe and Fitting Size Limitations	Surface Preparation	First Coat	Second Coat
Tnemec	Pipes 4" to 8" diameter	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): 22 Epoxoline 16.0-18.0 Mils	
	Pipes 10" to 12" diameter	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): 22 Epoxoline 16.0-18.0 Mils	
	Pipes 14" diameter and greater; valves and fittings 4" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): 22 Epoxoline 16.0-18.0 Mils	
Carboline	Pipes 4" to 8" diameter; fittings		No NSF/ANSI/CAN certified equivalent	
	Valves 4" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Carboguard 891 VOC 4.0-10.0 Mils	(Shop): Carboguard 891 VOC 4.0 – 10.0 Mils (16.0 mils min, 20.0 mils max total)
	Pipes 10" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Phenoline Tankshield 16.0-20.0 Mils	
International Paint	Pipes 4" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Interline 975P 16.0-18.0 Mils	
	Valves and fittings 4" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Bar Rust 233 H 12.0-16.0 Mils	
Sherwin Williams	Valves and fittings	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Duraplate 6000 20.0-50.0 Mils	
	Pipes 4" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop): Duraplate 6000 20-50 Mils >=4" 20-125 Mils >=6"	
	Pipes 6" diameter and greater	(Shop): SSPC-SP10 near-white blast cleaning	(Shop) Sherplate PW Epoxy 16.0-30.0 Mils >=6" 16.0-50.0 Mils >=12"	

END OF SECTION 09 91 00

SECTION 40 05 13 – PROCESS PIPING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the furnishing and installation of process piping.
- B. Work included under this Section:
 - 1. Non-buried process piping indicated on the Process Drawings.

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:
 - 1. ANSI B 16.5 - Pipe Flanges and Flange Fittings.
 - 2. ASTM Standards:
 - a. A36 - Structural Steel.
 - b. A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - c. A193 - Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
 - d. A194 - Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service.
 - e. A234 - Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
 - f. A283 - Low and Intermediate Tensile Strength Carbon Steel Plates.
 - g. A312 - Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes.
 - h. A403 - Wrought Austenitic Stainless Steel Piping Fittings.
 - i. D1784 - Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
 - j. D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
 - k. D2464 - Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
 - l. D2467 - Socket Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
 - m. D2992 - Obtaining Hydrostatic Design Basis for Reinforced Thermosetting Resin Pipe and Fittings.
 - n. D2996 - Filament-Wound "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe.
 - o. E8 - Low and Intermediate Tensile Strength Carbon Steel Plates.
 - p. E23 - Notched Bar Impact Testing of Metallic Materials.
 - 3. AWWA Standards:
 - a. C 104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fitting for Water.
 - b. C 110 - Ductile-Iron and Gray-Iron Fittings, 3 In. through 48 In., for Water and Other Liquids.
 - c. C 115 - Flanged Ductile-Iron Pipe with Threaded Flanges.
 - d. C 151 - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.
 - e. C 200 - Steel Water Pipe 6 In. and Larger.
 - f. C 207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 In. through 144 In.
 - g. C 208 - Dimensions for Fabricated Steel Water Pipe Fittings.
 - h. C 210 - Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines
 - i. C 219 - Bolted Sleeve-Type Couplings for Plain-End Pipe.
 - j. C 220 - Stainless Steel Pipe, 4-Inch and Larger.
 - k. C 600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
 - l. C 606 - Grooved and Shouldered Joints.
 - m. C 651 - Disinfecting Water Mains.
 - n. Design Manual M-11 - Steel Pipe – A Guide for Design and Installation.

4. NSF Standards:
 - a. 14 - Plastic Piping Components and Related Materials.
 - b. 61 - Drinking Water System Components.

1.4 DESIGN AND PERFORMANCE REQUIREMENTS

- A. Pipe:
 1. Design, fabricate and install according to the references and standards specified herein.
 2. The Drawings indicate general pipe layout only. Details of joints, couplings, tie rods, supports and make-up pieces are not necessarily indicated. Submit proposed details for these components for Engineer's review.
 3. Provide makeup pipe spools, supports and suitable couplings so that piping may be easily separated for removing valves and inline flanged device.
- B. Supports and Hangers:
 1. The detailed design, layout and spacing of process pipe supports shall be the responsibility of the Contractor. The required locations of some supports may be indicated on the Drawings.
 2. Design to prevent pipe sway and movement.
 3. Adequate to prevent sagging of plastic pipe.
 4. Utilize supporting members as indicated on the structural Drawings for the design, layout and spacing of the process piping supports systems.
 5. Design process piping support systems to allow process valves and meters to be removed from the piping system without adding temporary pipe supports to the pipe upstream or downstream of the valve or meter.

1.5 SUBMITTALS

- A. Itemized Listings:
 1. Equipment to be provided.
 2. Deviations from the requirements of this Section.
- B. Shop Drawings: For equipment assemblies in this Section to include:
 1. Details of construction and installation, including taps, weld-on outlets, water collars, specials, and similar features.
 2. Pipe diameter, wall thickness, length, centerline elevations, and locations and dimensions of valves fittings, taps, and in-line equipment and instruments, and similar features.
 3. Location and centerline elevation of wall sleeves and wall pipes.
 4. Type and location of pipe supports on 8-inch pipe and larger.
 5. Details for concrete pipe supports including dimensions, reinforcement, pipe straps and locations proposed for use.
 6. Type and location of pipe couplings.
 7. Schedule of wall sleeves and pipes indicating proposed sizes, lengths, and connection details.
 8. Preliminary testing schedule showing pipe sections to be tested, bulkheads, drains, and chlorine injection locations.
 9. Schedule of coatings.
- C. Product/Catalogue Data: For all products in this Section to include:
 1. Manufacturer.
 2. Manufacturer's engineering and specification data.
 3. Dimensions, thicknesses, cross-sections, materials of construction.
 4. Coatings.
- D. Installation Instructions:
 1. Submit complete Manufacturer's installation instructions for all products.
 2. Submit pipe Manufacturer's recommended span lengths between hangers or supports for each pipe size and type.
- E. Certifications: Submit Manufacturer's certification that products and materials conform to these Specifications.

1.6 QUALITY ASSURANCE

- A. Fabrication and Installation Personnel Qualifications:
 - 1. Trained and experienced in the fabrication and installation of the materials and equipment.
 - 2. Knowledgeable of the design and the reviewed Shop Drawings.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unbroken, brand marked containers or wrapping as applicable.
- B. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, and damage by weather or elements, and in accordance with Manufacturer's directions.
- C. Reject damaged, deteriorated or contaminated material and immediately remove from the Site. Replace rejected materials with new materials at no additional cost to Owner.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. General:
 - 1. In-Plant Process Piping 3-Inch and Larger:
 - a. Ductile iron or carbon steel.
 - b. Unless otherwise specified below or indicated on the Drawings.
 - 2. Provide taps at locations indicated on the Drawings.
- B. Polyvinyl Chloride (PVC) Pipe Systems:
 - 1. Use: Drain piping.
 - 2. Materials:
 - a. Manufacture pipe, valves, and fittings from material which meets the requirements of Type 1, Grade 1 polyvinyl chloride as outlined in ASTM D1784.
 - b. PVC shall have a design stress rating of 2,000 psi at 73 degrees F and 440 psi at 140 degrees F for water service.
 - c. Test and approve materials from which pipe, valves and fittings are manufactured for conveying potable water.
 - d. Joint Primer:
 - 1) ASTM F656.
 - 2) IPS P-70 Purple Primer; or equal.
 - e. Solvent Cement:
 - 1) ASTM D2564.
 - 2) IPS Weld-on 724 chemical-resistant cement; or equal.
 - f. Pipe and Fittings: NSF listed for potable water service and labeled as such.
 - 3. Pipe: Schedule 80 PVC conforming to ASTM D1785.
 - 4. Fittings:
 - a. Schedule 80.
 - b. Socket Type Fittings: Conform to ASTM D2467.
 - c. Threaded Type Fittings: Conform to ASTM D2464. Used only where necessary to connect to threaded appurtenances. Use MIL Spec P-27730A Teflon tape when threaded connections are required.
 - 5. Flange Gaskets: Viton.
 - 6. Flange Hardware: 316L stainless steel.

2.2 SUPPORTS AND HANGERS

- A. General:
 - 1. Design Layout and Spacing of the Pipe Supports: Responsibility of Contractor.
 - 2. Furnish factory fabricated hangers and supports complete with necessary inserts, clamps, bolts, nuts, washers, and accessories.

- B. Manufacturers and Types:
 - 1. Pipe Hangers: Clevis or split ring type with adjustable threaded hanger rods.
 - 2. Hangers: Grinnell, Unistrut, Crane; or equal.
- C. Materials (Hangers and Hardware):
 - 1. Type 316L stainless steel.
 - 2. Isolate dissimilar pipe and support materials with 1/8-inch thick EPDM rubber sheet stock.

2.3 WALL PENETRATIONS

- A. Seals:
 - 1. Modular mechanical type consisting of chemical resistant interlocking synthetic rubber links shaped to continuously fill the annular space between pipe and wall opening.
 - 2. Expanded by tightening stainless steel bolts, with a pressure plate under each bolt head.
 - 3. Providing a water-tight seal between passing pipe and sleeve.
 - 4. Provide mechanical retaining assemblies for the modular mechanical seals at the locations indicated on the Drawings.
 - 5. Seal materials shall be NSF listed for potable water service.
 - 6. Manufacturers and Types:
 - a. Link Seal by Thunderline Corporation.
 - b. Or equal.

2.4 PIPE JOINT HARNESSSES

- A. Tie Rod Bolt: Conform to ASTM A193, Grade B7.
- B. Tie Rod Lugs: Conform to ASTM A283, Grade C or ASTM A36.
- C. Tie Rod Nuts: Conform to ASTM A194, Grade 2H.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Install process piping and accessories in conformance with:
 - a. The Manufacturer's recommendations.
 - b. The Shop Drawings as reviewed by Engineer.
 - 2. Install items to be embedded before concrete is placed.
 - 3. Fasten embedded items securely to prevent movement when concrete is placed.
 - 4. Install items plumb, square, true to lines, grades, elevations, and locations as indicated on the Drawings and herein specified.
 - 5. Do not install chemical piping within finished rooms, regardless of size.
 - 6. Valves, regardless of size and contents, shall be readily accessible. Chemical feed piping valves shall be accessible from operating floor.
 - 7. Do not install chemical feed piping over equipment.
- B. Hangers and Supports:
 - 1. Install hangers and supports at less than maximum spacing as recommended by pipe Manufacturer.
 - 2. Adjust hangers and supports to bring pipe lines to proper elevations.
 - 3. Install inserts in concrete flush with the surface and capable of developing the full strength of the bolt.
- C. PVC Piping: Installation procedures, including support spacing, solvent welding and allowance for expansion and contraction shall be in accordance with the Manufacturer's recommendations.

3.2 PAINTING

- A. Paint pipe, fittings, supports, hangers, sleeves and accessories in accordance with Division 09 Section "Painting."

3.3 TESTING

- A. General:
 - 1. Perform leak testing on the following process piping lines:
 - a. Drain.
 - 2. Tests shall be witnessed by Engineer.
 - 3. Provide necessary equipment to perform tests.
- B. Procedure:
 - 1. Plug and fill drain piping. Visually inspect for leaks along full length of piping.
 - 2. Duration: 2 hours.
 - 3. Pressure: Atmospheric.
 - 4. No visible leaks.
- C. Repairs: In case of leakage under test, locate and repair leaks in an approved manner and test section again until a satisfactory test is secured.

3.4 CLEANING

- A. Thoroughly clean installed materials and Products and related areas:
 - 1. Prior to acceptance of the work of this Section.
 - 2. In accordance with Division 01 Section "Cleaning and Waste Management."

END OF SECTION 40 05 13

SECTION 46 41 33 – FLOCCULATION EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes
 - 1. The furnishing and installation of horizontal flocculation equipment.
 - 2. The installation of Owner Procured Stuffing Box Equipment.
- B. Related Sections include Division 03 "Rehabilitation of Cast-In-Place Concrete" and Division 00 Section "Procurement Contracts".

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this Section will comply with the following:
 - 1. ASTM - American Society for Testing and Materials Standard Specifications: A 36 - Structural Steel.
 - 2. AISC - American Institute of Steel Construction.
 - 3. AWS - American Welding Society.
 - 4. AWWA - American Water Works Association standards.
 - 5. Michigan Building Code.
 - 6. NSF/ANSI 61 – Drinking Water System Components – Health Effects

1.4 SYSTEM DESCRIPTION

- A. The equipment described below shall be provided as an integral package by a single Manufacturer providing all components.
- B. Flocculation equipment shall include:
 - 1. Horizontal Flocculators
 - a. Shafting.
 - b. Stuffing box assemblies.
 - c. Bearings and bearing plates.
 - d. Chain and sprocket assemblies.
 - e. All mounting brackets, anchoring, and hardware.

1.5 SUBMITTALS

- A. Owner Procured Equipment:
 - 1. Shop Drawings and Product Data:
 - a. Contractor shall receive 2 copies of the Engineer's reviewed Shop Drawings and Product Data of the stuffing box equipment.
 - b. Contractor shall have 15 days to review for dimensions, installation coordination, construction requirements, and other related items necessary for a complete installation.
 - c. Within the 15-day Contractor review period, Contractor shall respond in writing to Engineer with all questions and comments as they relate to the installation of all procured items.
- B. Contractor Furnished Equipment:
 - 1. Itemized Listings:
 - a. Equipment to be provided.
 - b. Deviations from the requirements of this Section.

2. Shop Drawings for all equipment assemblies in this Section to include:
 - a. For all process equipment, to include:
 - 1) Dimensions.
 - 2) List of equipment and spare parts to be supplied.
 - 3) Materials and details of construction.
 - 4) Details of procedures used to clean and passivate the equipment.
 - 5) Details of equipment mounting, anchoring, and support.
 - 6) Job specific, dimensioned drawings.
 - 7) Job specific, electronic copies of provided equipment in .iges and .dwg format to be used without restriction in the development of Contract Documents.
 - 8) Weight of components.
 - 9) Installation instructions.
 - 10) Engineering data on ancillary equipment supplied by Manufacturer.
 - 11) Name of Manufacturer.
 - 12) Model numbers.
3. Product/catalog data for all flocculator equipment in this Section to include:
 - a. Manufacturer.
 - b. Model.
 - c. Materials of construction.
 - d. Performance data.
 - e. Manufacturer's engineering and specification data.
4. Installation instructions for equipment assemblies in this Section to include:
 - a. Anchoring requirements.
 - b. Lubrication requirements.
 - c. Start-up instructions.
5. Operation and maintenance manuals for all equipment in this Section to include:
 - a. General:
 - 1) Table of contents.
 - 2) Subdivided (tabbed) into separate sections that cover separate equipment or grouping of equipment.
 - 3) Provide 1 searchable electronic copy (Flash Drive) per hard copy, of the overall O&M Manual that includes information for all sites. Owner shall be permitted to make copies of Flash Drive without restriction.
 - b. For all equipment provided:
 - 1) Copy of reviewed Shop Drawings and product/catalog data.
 - 2) Equipment function, normal operating characteristics and limiting conditions.
 - 3) Assembly, installation, alignment, adjustment and checking instructions.
 - 4) Operating instructions for start-up, routine and normal operating, regulation and control, and shutdown and emergency conditions.
 - 5) Lubrication and maintenance instructions.
 - 6) Guide to "troubleshooting."
 - 7) Parts lists and predicted life of parts subject to wear.
 - 8) Outline, cross-sections, assembly drawings, engineering data.
 - 9) Test data, performance data and performance curves.
 - 10) Engineering data on ancillary equipment supplied by Manufacturer.
6. Reports: Manufacturer's representative start-up report.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 1. Fabrication Personnel:
 - a. Trained and experienced in the fabrication and assembly of the materials and equipment.
 - b. Knowledgeable of the design and the reviewed Shop Drawings.
 2. Manufacturer:
 - a. Will have been in continuous business for a period of at least 10 years engaged in the manufacture of water treatment equipment.
 - b. Will provide a list of a minimum of 10 similar installations where horizontal flocculation was used in municipal applications. The Manufacturer will provide references and contact information for said equipment installations.

- B. Regulatory Requirements:
 - 1. Occupational Safety and Health Act of 1970: All equipment installations shall comply with Act and regulations.
 - 2. All equipment shall be suitable for potable water applications. Materials to be in contact with water shall be NSF compliant.
- C. Submit the following for Manufacturer's services:
 - 1. Manufacturer's sworn statement that the equipment furnished complies with this Specification.
 - 2. Manufacturer's field service.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unbroken, brand marked containers or wrapping as applicable.
- B. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, and damage by weather or elements, and according to Manufacturer's directions.

1.8 WARRANTY

- A. The Manufacturer of the flocculation equipment shall guarantee in writing the equipment furnished is appropriate for the intended service and shall be free of manufacturing and fabrication defects in material and workmanship for a period of 24 months from the date the equipment is put into continuous service and accepted by the Owner.

PART 2 - PRODUCTS

2.1 HORIZONTAL FLOCCULATION EQUIPMENT

- A. All horizontal Flocculation equipment to be supplied by one Flocculation Equipment Supplier, E&I Corporation.
- B. Stuffing Box Assembly: Procured by Owner.
- C. Shafting:
 - 1. All solid shafts shall be minimum 2 3/4-inch diameter.
 - 2. Solid shafting shall be pump shaft quality (PSQ), with a maximum total indicated runout of 0.005-inches or less across the length of the shaft.
 - 3. The shafting system for each mechanism shall be sized within stress limitations at full operating load and within deflection limitations under dry load.
 - 4. The maximum shear stress shall not exceed 6,000 psi at any point in the shaft. The maximum shear shall be determined by combining the bending and torsional stresses under full operating load through Mohr's circle stress convention. The maximum vertical deflection of the shafting system shall not exceed L/1000 between support reactions under dry load. The angle of twist shall be no more than 0.08°/ft of shaft, but not exceed 5.0° total for the entire shaft length.
 - 5. All solid drive shafting shall be plain end by flange, 2 15/16-inch diameter.
 - 6. All solid spool piece shafts through the bearings shall be 2 3/4-inch diameter.
 - 7. All shafting shall:
 - a. Be of cold rolled carbon steel construction.
 - b. Use 4inch 150# ANSI flanges, manufactured from carbon steel. A minimum 1/4-inch thick neoprene gasket shall be placed between each set of flanges.
 - c. Be equipped with 3-inch x 3-inch x 3/8-inch gusset plates at each flange, with a minimum of 4.
 - 8. After fabrication, each shaft assembly's flanges shall be faced to within 0.015-inch of parallel to one another.
 - 9. Fabricator: RTD Manufacturing
- D. Bearing Assembly:
 - 1. Submerged bearings shall:
 - a. Have carbon steel spit housing.
 - b. Have a diameter of 2 3/4"-inch.

- c. Be pedestal mounted.
 - d. Manufacturer: Craft Bearing Company, Standard Duty.
 - 2. Dry bearings shall:
 - a. Have carbon steel spit housing.
 - b. Have a diameter of 2 15/16"-inch.
 - c. Be pedestal mounted.
 - d. Manufacturer: Craft Bearing Company, Standard Duty.
- E. Chain and Sprocket Assembly:
 - 1. Drive sprockets shall:
 - a. Be of carbon steel construction.
 - b. Have a bore diameter of 2 5/8-inch.
 - c. Have 11 teeth.
 - d. Manufacturer: Brewton Iron Works, LLC, Style 1.
 - 2. Driven sprockets shall:
 - a. Be of carbon steel construction.
 - b. Have a bore diameter of 2 15/16-inch.
 - c. Have 44 teeth.
 - d. Manufacturer: Brewton Iron Works, LLC.
- F. Spare Parts:
 - 1. General:
 - a. Supplied by Manufacturer of installed equipment.
 - b. Deliver to Owner prior to start-up.
 - 2. One complete bearing assembly, of each type.
 - 3. One complete drive chain set.
 - 4. Ten tubes of food grade grease suitable for lubrication of the stuffing box and bearings.
 - 5. One set of special tools required to maintain or dismantle.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Install in full conformance with approved Shop Drawings and Manufacturer's instructions.
 - 2. Install equipment plumb, to lines and elevations on Drawings and approved Shop Drawings.

3.2 FABRICATION

- A. All welding shall be performed by certified welders in accordance with AWS D1.6 and shall be completed with a method suitable for the materials to be welded.
- B. All welds shall be uniform in appearance and free of cracks, porosity, holes, and flux.
- C. Remove all burrs and weld spatter prior to shipment.
- D. Sharp projections or cut edges which will not be welded shall be ground to a radius as required.
- E. Apply NSF/ANSI-61 approved anti-seize lubricant to male threads of stainless steel bolts at the time of assembly.
- F. All stainless steel components within 4 inches of the air-water interface to be fully dipped passivated. Provide QA certification that each part was fully passivated with description of method used.

3.3 DELIVERY, STORAGE AND HANDLING

- A. Receiving and Storage: Coordinate with Owner as required.

3.4 FIELD QUALITY CONTROL

A. Supplier's Field Service:

1. Arrange and pay for Flocculation Equipment Supplier's qualified representative for a minimum of 1 trip to the jobsite to train Contractor's personnel on proper installation of equipment, start-up and commission equipment and train Owner's personnel on proper maintenance and operation of flocculator equipment. The total time spent onsite (not including travel time) shall not be less than two 8-hour working days.
2. The installation services shall be coordinated between the Contractor and the Supplier a minimum of 14 days in advance.
3. After successful installation and field-testing services are completed by the Supplier, the Contractor shall submit a certification letter on the Supplier's letterhead, and signed by the Supplier certifying that the equipment was installed per the manufacturer's recommendations.
4. Dry startup: The Supplier shall provide start-up reports for each shaft assembly. At a minimum, these reports shall include the following information. Each assembly shall be operated for a minimum of 30 minutes. Recordings shall be taken at a maximum interval of 15 minutes.
 - a. Shaft RPM.
 - b. System voltage and amperage.
 - c. Motor and gearbox temperature.
 - d. Bearing housing temperature.
 - e. Axial movement of shaft.
5. Wet startup: The manufacturer shall provide start-up reports for each shaft assembly. At a minimum, these reports shall include the following information at 20%, 40%, 60%, 80%, and 100% speeds. Each assembly shall be operated at each required speed for a minimum of 1 hour. Recordings shall be taken at a maximum interval of 15 minutes.
 - a. Shaft RPM.
 - b. System voltage and amperage.
 - c. Motor and gearbox temperature.
 - d. Check for axial movement of shaft.
6. O&M Training: Provide O&M training services to all operators at the completion of the performance testing period.
7. Coordinate with the roller bearing manufacturer to provide 1-day of onsite installation assistance for the contractor and training for the Owner.

B. Contractors Alignment Services:

1. Contractor shall confirm alignment of all components of the flocculation system equipment. The Contractor shall, as a minimum, perform the following services for flocculators installed under the Contract and provide a report to the flocculator equipment manufacturer prior to wet start-up that documents that the following alignment checks and criteria have been met.
 - a. Check alignment of shafts, bearings and related components using precision optical tooling.
 - b. Align bearings to a common center axis within 0.010-inch from bearing to bearing.
 - c. Align the flocculator system including but not limited to bearings and shafts to a common center axis to within 0.032-inch.
2. The Contractor shall perform the quality control checks on 100% of the shafts, bearings and related components installed under the Contract.
3. The Contractor shall document quality control checks and measurements and compare results to these Specifications and the flocculator equipment manufacturer's requirements and instructions to show numerically the difference. Any nonconformities shall be clearly indicated and highlighted in red color in the documentation.
4. Contractor shall correct nonconformances and shall re-perform its services to ensure that the system is properly installed meeting the Specification requirements, approved Submittals requirements, manufacturer's requirements, and Contract requirements.

3.5 CLEANING

- A. Prior to acceptance of the Work of this Section, thoroughly clean all installed materials, equipment, and related areas.

END OF SECTION 46 41 33

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APPENDIX

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ATTACHMENT B
GENERAL DECLARATIONS

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

Ladies and Gentlemen:

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

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

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

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

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

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

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

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

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

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

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

SIGNED THIS _____ DAY OF _____, 202_.

Bidder's Name

Authorized Signature of Bidder

Official Address

(Print Name of Signer Above)

Telephone Number

Email Address for Award Notice

ATTACHMENT C
LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

* A corporation organized and doing business under the laws of the State of _____

_____, for whom _____, bearing the office title of _____, whose signature is affixed to this Bid, is authorized to execute contracts.

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

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

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

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

Authorized Official

_____ **Date** _____, 202__

(Print) Name _____ Title _____

Company:

Address:

Contact Phone () _____ Fax () _____

Email _____

ATTACHMENT D
PREVAILING WAGE DECLARATION OF COMPLIANCE

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

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

The Contractor agrees:

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

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

Company Name

Signature of Authorized Representative Date

Print Name and Title

Address, City, State, Zip

Phone/Email address

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

ATTACHMENT E

LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

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

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

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$17.08/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$19.04/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

- | | |
|--------------------------|---|
| ☐ | Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits |
| ☐ | Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits |

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

Company Name

Street Address

Signature of Authorized Representative

Date

City, State, Zip

Print Name and Title

Phone/Email address

Attachment F

CITY OF ANN ARBOR LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2025 - ENDING APRIL 29, 2026

\$17.08 per hour

If the employer provides health care benefits*

\$19.04 per hour

If the employer does **NOT** provide health care benefits*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

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

**For Additional Information or to File a Complaint contact
Colin Spencer at 734/794-6500 or cspencer@a2gov.org**



ATTACHEMENT G

Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	() Relationship to employee
	() Interest in vendor's company
	() Other (please describe in box below)

*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
Vendor Name		Vendor Phone Number
Signature of Vendor Authorized Representative	Date	Printed Name of Vendor Authorized Representative

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

ATTACHMENT I

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.

You can review the entire ordinance at www.a2gov.org/humanrights.

Intent: It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

Discriminatory Employment Practices: No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

Discriminatory Effects: No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

Nondiscrimination by City Contractors: All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

Complaint Procedure: If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at www.a2gov.org/humanrights. Then submit it to the Human Rights Commission by e-mail (hrc@a2gov.org), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at hrc@a2gov.org.

Private Actions For Damages or Injunctive Relief: To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

MICHIGAN DEPARTMENT OF TRANSPORTATION
CERTIFIED PAYROLL

COMPLETION OF CERTIFIED PAYROLL FORM FULFILLS THE MINIMUM MDOT PREVAILING WAGE REQUIREMENTS

(1) NAME OF CONTRACTOR / SUBCONTRACTOR (CIRCLE ONE)										(2) ADDRESS															
(3) PAYROLL NO.				(4) FOR WEEK ENDING				(5) PROJECT AND LOCATION				(6) CONTRACT ID													
(a)		(b)		(c) Hour Type	(d) DAY AND DATE								(e) TOTAL HOURS ON PROJECT	(f) PROJECT RATE OF PAY	(g) PROJECT RATE OF FRINGE PAY	(h)		(i) TOTAL WEEKLY HOURS WORKED ALL JOBS	(j) DEDUCTIONS						(k) TOTAL WEEKLY WAGES PAID FOR ALL JOBS
EMPLOYEE INFORMATION		WORK CLASSIFICATION			HOURS WORKED ON PROJECT											GROSS PROJECT EARNED	GROSS WEEKLY EARNED		FICA	FEDERAL	STATE	OTHER	TOTAL DEDUCT		
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	
ETH/GEN: ID #:		GROUP/CLASS #:		S									0			\$0.00							\$0.00	\$0.00	
NAME:													0			\$0.00							\$0.00	\$0.00	

Date _____

I, _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)
_____ ; that during the payroll period commencing on the
(Building or Work)
_____ day of _____, _____, and ending the _____ day of _____, _____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)
weekly wages earned by any person and that no deductions have been made either directly or indirectly
from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part
3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,
63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are
correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the
applicable wage rates contained in any wage determination incorporated into the contract; that the
classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide
apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of
Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a
State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- ☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in
the above referenced payroll, payments of fringe benefits as listed in the contract
have been or will be made to appropriate programs for the benefit of such
employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- ☐ – Each laborer or mechanic listed in the above referenced payroll has been paid,
as indicated on the payroll, an amount not less than the sum of the applicable
basic hourly wage rate plus the amount of the required fringe benefits as listed
in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	