

PUBLIC IMPROVEMENT REQUEST FOR PROPOSAL

RFP# 25-33

EQUALIZATION AND RETENTION BUILDING ROOF REPAIRS

City of Ann Arbor
Public Services Area/Water Resource Recovery Facility



Due Date: July 10, 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 construction firm to perform concrete repairs, roof drainage enhancements, waterproofing, and reroofing at the Equalization and Retention Building at the Water Resource Recovery Facility (WRRF). This work is necessary to prepare the roofs for future installation (as a separate project) of a photovoltaic array.

The project includes cleaning and surface preparation, concrete slab repairs, concrete wall/curb repairs, and crack routing & patching. Drainage enhancements include installing supplemental drains and retrofitting existing drains with new dome strainers. Waterproofing enhancements include removing and replacing expansion joints and installing a new protective coating over most of the roof area. Other miscellaneous repairs include concrete pad replacement, guardrail post base repairs, and demolishing and patching unused equipment bases.

The existing building was constructed in approximately 1979. The roof structure is conventionally reinforced cast-in-place concrete flat slabs supported on concrete columns. The top of the concrete roof surface has Thoroseal (or similar) present that is believed to have been installed during original construction. Existing expansion joint treatments appear to be Combiflex tape (or similar) adhered with epoxy. The elevated roof has an existing TPO membrane system, which will be replaced.

The facility is anticipated to remain in-service during the duration of the project, with the predominance of work occurring on the top of roofs; access to the tank inside the building is not anticipated.

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 JUNE 30, 2025 at 5:00 p.m. (local time), and should be addressed as follows:

Scope of Work/Proposal Content questions shall be e-mailed to **Anne Warrow, Senior Engineer – awarrow@a2gov.org**.

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

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

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

D. PRE-PROPOSAL MEETING

A pre-proposal conference for this project will be held on **June 26, 2025 at 9:00 am at the Ann Arbor Water Resource Recovery Facility (49 Old Dixboro Road, Ann Arbor, MI); Administration Building**. 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. 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 July 10, 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. 25-33 – Equalization and Retention Building Roof Repairs”** 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 and the General Decision Number is MI20250100.

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
Pre-Proposal Conference	June 26, 2025, 9:00 a.m. (Local Time)
Written Question Deadline	June 30, 2025, 5:00 p.m. (Local Time)
Addenda Published (if needed)	Week of June 30, 2025
Proposal Due Date	July 10, 2025, 11:00 a.m. (Local Time)
Selection/Negotiations	July/August 2025
Expected City Council Authorizations	August 2025

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

Please see the plan set for more details.

SECTION III - MINIMUM INFORMATION REQUIRED

PROPOSAL FORMAT

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

Bidders should organize Proposals into the following Sections:

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

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

Pursuant to Sec 1:325 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: _____

Unit Price Bid –

Work Item	Work Item Description	Units	Estimated Quantity	Unit Price	Total Price
Division 0 & 1 - General Conditions					
1.1	Contractor Mobilization	LS	1		
1.2	Contractor General Requirements	LS	1		
1.3	Permit Allowance	ALLOW	1	\$ 5,000	\$ 5,000
Division 2 - Existing Conditions					
2.1	Clean and Dispose of Roof Debris, Pressure Wash	LS	1		
2.2	Demolish Unused Concrete Equipment Pads/Patch Access Holes	EA	5		
Division 3 - Concrete					
3.1	Top of Slab Repair - Partial Depth	SF	90		
3.2	Curb Repair	SF	200		
3.3	Curb/Wall Repair at Post	EA	10		
3.4	Clean and Fill Void Space at Post Sleeve	EA	50		
3.5	Remove and Replace Concrete Pad at Doorway	SF	35		
3.6	Rout Cracks and Provide Cementitious Plug Patch	LF	1,000		
Division 7 - Thermal and Moisture Protection					
7.1	Remove and Replace Expansion Joint	LF	1,600		
7.2	Remove and Replace Roofing Membrane System	SF	8,500		
Division 9 - Finishes					
9.1	Remove and Replace Protective Coating	SF	128,000		
Division 22 - Plumbing					
22.1	Retrofit Dome Strainer at Existing Drains	EA	27		
22.2	Provide Supplemental Roof Drains at Water Ponding Areas	EA	10		
TOTAL BID AMOUNT					

*Unit Key Code: LS - Lump Sum, SF - Square Foot, LF - Lineal Foot, EA - Each, ALLOW - Allowance

The City may make changes to the estimated quantities of work or may eliminate items of work within the general scope of the Contract at any time by a written order. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly.

F. AUTHORIZED NEGOTIATOR / NEGOTIATIBLE ELEMENTS (ALTERNATES)

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

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

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

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

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

G. ATTACHMENTS

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

PROPOSAL EVALUATION

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

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

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

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

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

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

PREPARATION OF PROPOSALS

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

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

ADDENDA

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

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

SECTION IV - ATTACHMENTS

Attachment A – Sample Standard Contract

Attachment B – General Declarations

Attachment C - Legal Status of Bidder

Attachment D – Prevailing Wage Declaration of Compliance Form

Attachment E – Living Wage Declaration of Compliance Form

Attachment F – Living Wage Ordinance Poster

Attachment G – Vendor Conflict of Interest Disclosure Form

Attachment H – Non-Discrimination Ordinance Declaration of Compliance Form

Attachment I – Non-Discrimination Ordinance Poster

Sample Certified Payroll Report Template

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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. 25-33 – Equalization and Retention Building Roof Repairs** 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 Resource Recovery Facility.**

Project means Equalization and Retention Building Roof Repairs - RFP No. 25-33.

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 **Anne M. Warrow, P.E.** whose job title is **Senior 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 one hundred (100) 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 **\$500 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 Robers

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:

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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 13. No claim shall be valid unless so made.

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

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

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

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

Section 16 - Progress Payments

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

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

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

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

Section 17 - Deductions for Uncorrected Work

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

Section 18 - Correction of Work Before Final Payment

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

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

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

Section 19 - Acceptance and Final Payment

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

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

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

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

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

- (1) unsettled liens;
- (2) faulty work appearing within 12 months after final payment;

- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

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

Section 20 - Suspension of Work

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

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

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

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

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

unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

Section 22 - Contractor's Right to Terminate Contract

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

Section 23 - City's Right To Do Work

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

Section 24 - Removal of Equipment and Supplies

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

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

Section 25 - Responsibility for Work and Warranties

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

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

one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

Section 26 - Partial Completion and Acceptance

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

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

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

Section 27 - Payments Withheld Prior to Final Acceptance of Work

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

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

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

Section 28 - Contractor's Insurance

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage 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.

CONTRACTOR'S AFFIDAVIT

GC-18

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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END OF SECTION 00 01 10

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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 and Supplementary 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.
 - 6. Contractor shall perform initial sounding to determine areas to be repaired, in addition to those indicated on the Drawings.
 - 7. Engineer's field representative will sound existing concrete to verify locations to be performed in addition to those indicated on the Drawings.
- 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. Support, relocation, replacement, connection or reconnection of existing pipelines and utilities.
 - 2. Cleanup and surface restoration.
 - 3. Temporary removal and reinstallation of utilities to allow concrete restoration and installation of coatings.
 - 4. Concrete steel reinforcement.
 - 5. Temporary enclosures and sources of heat and humidity control to allow construction activity to proceed during cold weather and adverse conditions.
- D. The City may make changes to the estimated quantities of work or may eliminate items of work within the general scope of the Contract at any time by a written order. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly.

1.3 GENERAL CONDITIONS

- A. Item No. 1.1 – Mobilization:
 - 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. Provide insurance, bonds, and other costs associated with the project in general and not included in other pay items.
 - e. All required submittals.
 - 2. Unit of Measure: Lump sum.

- B. Item No. 1.2 – Contractor General Requirements:
 - 1. Includes:
 - a. Refer to General Conditions, Division 0 and Division 1 specifications.
 - 2. Measurement and Payment: Lump sum.
- C. Item No. 1.3 – Permit Allowance:
 - 1. Includes the fees for permitting and inspections by Ann Arbor Charter Township.
 - 2. Measurement and Payment:
 - a. Actual dollars paid to Ann Arbor Charter Township.
 - b. General Contractor allowable mark-up is 0%.
 - c. Documented by invoices.

1.4 EXISTING CONDITIONS

- A. Item No. 2.1 – Clean and Dispose of Roof Debris, Pressure Wash:
 - 1. Location: Work area applies to the concrete/cementitious roof, not the elevated roof that has existing TPO membrane present.
 - 2. Includes the following as indicated on the Drawings:
 - a. Remove all biological deposits from roof.
 - b. Legally dispose of off-site.
 - c. Pressure wash the cementitious roof.
 - d. Slab wetting for identifying areas of inadequate drainage.
 - 3. Unit of Measure: Lump Sum.
- B. Item No. 2.2 – Demolish Unused Concrete Equipment Pads/Patch Access Holes:
 - 1. Includes the following as indicated on the Drawings:
 - a. Details 4 and 5 on Sheet SR501.
 - b. Demolish concrete equipment pad and accessories.
 - c. Full-depth concrete patching.
 - 2. Unit of Measure: Each.

1.5 CONCRETE

- A. Item No. 3.1 – Top of Slab Repair - Partial Depth:
 - 1. Detail No.: 5 on Sheet SR501.
 - 2. Description:
 - a. Prepare spalled areas and areas identified by Engineer by saw cutting perimeter.
 - b. Remove delaminated and unsound concrete.
 - c. Prepare cavity.
 - d. Apply corrosion protection material.
 - e. Install patching material.
 - f. Fill to match adjacent surface.
 - g. Provide protective coating to fill patch area to match surrounding areas of existing coating to remain.
 - 3. Products: Refer to Division 03 Section "Rehabilitation of Cast-In-Place Concrete."
 - 4. Extend: Contractor shall locate delaminated and unsound concrete. Engineer shall verify.
 - 5. Unit of Measure: Square foot.
- B. Item No. 3.2 – Curb Repair:
 - 1. Detail No.: 6 on Sheer SR501.
 - 2. Description:
 - a. Prepare spalled areas and areas identified by Engineer by saw cutting perimeter.
 - b. Remove delaminated and unsound concrete and clean reinforcing.
 - c. Prepare cavity.
 - d. Apply corrosion protection material.
 - e. Install patching material.
 - f. Fill to match adjacent surface.
 - 3. Products: Refer to 03 Section "Rehabilitation of Cast-In-Place Concrete."
 - 4. Extent: Contractor shall locate delaminated and unsound concrete. Engineer shall verify.
 - 5. Unit of Measure: Square foot.

- C. Item No. 3.3 – Curb/Wall Repair at Post:
1. Detail No.: 7 on Sheet SR501.
 2. Description:
 - a. Remove delaminated concrete to sound concrete and corroded section of steel posts.
 - b. Remove post sleeve as indicated.
 - c. Provide new steel post section.
 - d. Prepare cavity.
 - e. Fill to match adjacent surface.
 - f. After application of protective coating, provide cove sealant.
 3. Products: Refer to 03 Section “Rehabilitation of Cast-In-Place Concrete.”
 4. Unit of Measure: Each.
- D. Item No. 3.4 – Clean and Fill Void Space at Post Sleeve:
1. Detail No.: 8 on Sheet SR501.
 2. Description:
 - a. Remove debris from annular space around rail post.
 - b. Remove corrosion from steel post and sleeve.
 - c. Provide 3 coats of zinc-rich coating on steel surfaces.
 - d. Fill to match adjacent surface.
 - e. After application of protective coating, provide cove sealant.
 3. Products: Refer to 03 Section “Rehabilitation of Cast-In-Place Concrete.”
 4. Unit of Measure: Each.
- E. Item No. 3.5 – Remove and Replace Concrete Pad at Doorway:
1. Detail No.: 10 on Sheet SR501.
 2. Description:
 - a. Remove and replace the existing concrete pad as indicated on the Drawings.
 - b. Provide reinforcement including new dowels adhesive anchored to existing slab.
 3. Products: Refer to 03 Section “Cast-In-Place Concrete (Restoration).”
 4. Extent: As indicated on Drawings and verified by Engineer. Match existing pad dimensions.
 5. Unit of Measure: Square foot.
- F. Item No. 3.6 - Rout Cracks and Provide Cementitious Plug Patch:
1. Detail No.: 9 on Sheet SR501.
 2. Description: Prepare crack by routing rectangular groove at crack and fill with patching material.
 3. Products: Refer to 03 Section “Rehabilitation of Cast-In-Place Concrete.”
 4. Extent: As indicated on Drawings and verified by Engineer.
 5. Unit of Measure: Lineal foot.

1.6 THERMAL AND MOISTURE PROTECTION

- A. Item No. 7.1 – Remove and Replace Expansion Joint:
1. Detail No.: 2 on Sheet SR502.
 2. Description:
 - a. Remove existing expansion joint system.
 - b. Clean and prepare bonding surface.
 - c. Provide new expansion joint.
 3. Products: Refer to Division 07 Section “Expansion Joint Systems.”
 4. Unit of Measure: Lineal foot.
- B. Item No. 7.2 – Remove and Replace Roofing Membrane System:
1. Detail No.: 8, 9, and 10 on Sheet SR502.
 2. Description: Remove and replace the existing roofing system including all accessories, flashing, trim, boots, etc.
 3. Products: Refer to Division 07 Sections “Preparation for Re-Roofing”, “Thermoplastic Membrane Roofing”, and “Sheet Metal Flashing and Trim.”
 4. Unit of Measure: Square foot.

1.7 FINISHES

- A. Item No. 9.1 – Remove and Replace Protective Coating:
1. Location: Concrete roof area that has existing cementitious protective coating present and at new areas as indicated on the Drawings.
 2. Detail No.: 3, 4, and 5 on Sheet SR502.
 3. Description:
 - a. Remove areas of debonded existing protective coating. Square off and score perimeter of existing coating removal areas.
 - b. Areas of existing coating that is well bonded may remain.
 - c. Fill in low areas.
 - d. Mechanically prepare surface.
 - e. Provide new protective coating.
 4. Products: Refer to Division 09 Section "Protective Coatings."
 5. Unit of Measure: Square foot.

1.8 PLUMBING

- A. Item No. 22.1 – Retrofit Dome Strainer at Existing Drains:
1. Detail No.: 6 on Sheet SR502.
 2. Description: Remove existing grates and provide new adapter rings and dome strainer.
 3. Unit of Measure: Each.
- B. Item No. 22.2 – Provide Supplemental Roof Drains at Water Ponding Areas:
1. Detail No.: 7 on Sheet SR502.
 2. Description:
 - a. Refer to Item 2.1 for slab wetting to identify areas of inadequate drainage. Coordinate with Engineer for approved locations for supplemental roof drains.
 - b. Scan and field locate existing reinforcement. Do not damage existing reinforcement.
 - c. Core, edge preparation, and chip out area to receive supplemental drain.
 - d. Provide new reinforcement, drain assembly, and piping (including trap seal).
 - e. Provide concrete patch material to set drains.
 - f. Provide protective coating to fill patch area to match surrounding areas of existing coating to remain.
 3. Extent: Contractor shall locate areas on inadequate slab drainage. Engineer shall verify and direct locations for supplemental drains.
 4. Unit of Measure: Each.

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 an 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 an electronic copy 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 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 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. Prepare a schedule of values for each item on the Unit Price Bid form.
 - 2. Submit a current schedule of values form with each application for payment.

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 unless otherwise approved in advance by Engineer.
- 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 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 73 29 – CUTTING AND PATCHING

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 cutting and patching work.
- B. Requirements:
 - 1. Cutting and patching may be described in various Sections of these Specifications
 - 2. Execute cutting, including excavating and filling, or patching of work required to:
 - a. Make several parts fit properly.
 - b. Uncover work to provide for installation of ill-timed work.
 - c. Remove and replace defective work.
 - d. Remove and replace work not conforming to the requirements of the Contract Documents.
 - e. Remove Samples of the installed work as specified for testing.
 - f. Install specified work in existing construction.
- C. Requirements Upon Engineer's Instructions:
 - 1. In addition to Contract requirements, upon written instruction of Engineer:
 - a. Uncover work to provide for Engineer's observation of covered work.
 - b. Remove Samples of installed materials for testing.
 - c. Remove work to provide for alteration of existing work.
- D. Protection of Work:
 - 1. Do not endanger any work by cutting or altering the work or any part of it.
 - 2. Do not cut or alter the work of another trade without written consent of Engineer.

1.3 SUBMITTALS

- A. Written Notice:
 - 1. Prior to cutting which may affect the structural integrity of the Project or the work of another trade, submit written notice to Engineer requesting consent to proceed with cutting.
 - 2. Required Information:
 - a. Identification of Project.
 - b. Description of all related defective work.
 - c. Necessity for cutting.
 - d. Effect on other work or on the structural integrity of the Project.
 - e. Description of the proposed work including:
 - 1) Scope of cutting and patching.
 - 2) Subcontractor and trades to execute work.
 - 3) Products proposed to be used.
 - 4) Extent of refinishing.
 - f. Alternatives to cutting and patching.
 - g. Designation of party responsible for the cost of cutting and patching.
- B. Changes of Materials or Methods:
 - 1. Should conditions of the Work, or the schedule, indicate change of materials or methods, submit a written recommendation to Engineer including:
 - a. Conditions indicating the change.
 - b. Recommendations for alternative materials or methods.
 - c. Submittals as required for substitutions.

- C. Uncovered Work: Submit written notice to Engineer designating the time work will be uncovered to provide for observation.

1.4 DIVISION OF WORK

- A. Work:
 - 1. 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.
 - 2. The following are suggestions as to how the Work may be divided. This is not a complete list of all the Work:
 - a. Each trade shall be financially responsible for all 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, Contractor shall cut and patch walls, floors, ceilings to allow for continuous runs of recessed utilities and ductwork.
 - c. All patching shall be done by the trade whose work is damaged.
 - d. Any cost caused by defective or ill-timed work shall be borne by the party responsible.
 - e. Each trade shall do all fitting of its own work as required to make its several components fit together or to receive the work of other contractors.
 - f. Holes cut in exterior walls or roofs for installation of mechanical or electrical equipment shall be waterproofed. If existing roofing is to remain, obtain and submit to Owner original roofing manufacturer's approval and warranty on new roof penetrations and where removing existing roof penetrations and curbs.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials and workmanship shall conform to the requirements of other Sections of the Specifications. 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. If none exist, use materials and workmanship recognized as of the highest quality in the industry. Obtain Engineer's review of all such material and workmanship.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Existing Conditions: Inspect existing conditions of the Work, including elements subject to movement or damage during cutting and patching or excavating and backfilling.
- B. Uncovered Work: After uncovering work, inspect conditions affecting the installation of new Products.

3.2 PREPARATION

- A. Shoring and Bracing: Provide shoring, bracing and support as required to maintain structural integrity of the Project.
- B. Protection: Provide protection for other portions of the Project and provide protection from the elements.

3.3 PERFORMANCE

- A. Adjustments to Products: Execute fitting and adjustments of Products to provide finished installation.
- B. Refinishing:
 - 1. Prepare existing surfaces for finishes by scraping, sanding, filling, acid etching, and sand or abrasive 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.
 - 4. Refinish entire assemblies.

3.4 CLEANING

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

END OF SECTION 01 73 29

SECTION 01 74 00 – CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes provisions for maintaining structures and the Site in a standard of cleanliness.
- B. Related Sections: In addition to standards described in this Section, comply with requirements for cleaning as described in various other Sections of these Specifications.

1.3 QUALITY ASSURANCE

- A. Inspection:
 - 1. Daily and more often if necessary.
 - 2. Conduct inspections to verify that requirements of cleanliness are being met.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Hazards Control:
 - 1. Volatile Wastes:
 - a. Store in covered metal containers.
 - b. Remove from premises daily.
 - c. Provide secondary containment for storage of hazardous materials, as required by governing authorities or agencies.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.

1.5 PROJECT CONDITIONS

- A. Cleaning and Disposal:
 - 1. Conduct operations to comply with local ordinances and anti-pollution laws.
 - 2. Not Allowed:
 - a. Burning or burying of rubbish or waste materials on Site.
 - b. Disposal of volatile wastes in storm or sanitary sewers: Volatile wastes include, but are not limited to, mineral spirits, oil or paint thinner.
 - c. Disposal of wastes into streams or waterways.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Compatibility:
 - 1. Compatible with the surface being cleaned.
 - 2. Recommended by the Manufacturer of the material being cleaned.
 - 3. As reviewed by Engineer.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General:
 - 1. Store Materials:
 - a. In an orderly arrangement allowing maximum access.
 - b. To allow unimpeded drainage and traffic.
 - c. Provide for the required protection of materials.
 - 2. Do not allow accumulation of scrap, debris, waste material and other items not required for construction of the Work.
 - a. Remove from Site at least each week and more often if necessary.
 - b. Provide adequate storage for materials awaiting removal.
 - 3. Observe requirements for fire protection and protection of the environment.
- B. Site:
 - 1. Daily, and more often if necessary:
 - a. Inspect the Site.
 - b. Pick up scrap, debris and waste material; remove such items to the place designated for their storage.
 - 2. Weekly, and more often if necessary:
 - a. Inspect arrangements of materials stored on Site.
 - b. Restack or otherwise service arrangements to meet the requirements of paragraph 3.1.A.1 above.
 - 3. At all times maintain the Site in a neat and orderly condition which meets the approval of Engineer.
 - 4. Paved Surfaces: Keep clean.
 - 5. Dust Control:
 - a. Control dust on or near the Work by the application of water or other approved means.
 - b. If Contractor fails to correct unsatisfactory conditions with 24 hours after due notification:
 - 1) Owner may arrange for such work to be performed by other means.
 - 2) Pay costs.
- C. Buildings, Tanks, and Other Structures:
 - 1. Weekly, and more often if necessary:
 - a. Inspect.
 - b. Pick up scrap, debris and waste material; remove such items to the place designated for their storage.
 - c. Sweep interior spaces clean. Clean shall be defined to be free from dust and other material capable of being removed by reasonable diligence using a hand-held broom.
 - 2. Preparation for installation of succeeding material:
 - a. Clean the building, tank or other structure or pertinent portion thereof:
 - 1) To the degree of cleanliness recommended by the Manufacturer of the succeeding material.
 - 2) Using equipment and materials required to achieve the required cleanliness.
 - 3. Schedule cleaning operations so that dust and other contaminants resulting from cleaning operations will not fall on wet, recently painted surfaces.

3.2 FINAL CLEANING

- A. Definitions for Clean: The level of cleanliness generally provided by commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.
- B. Prior to Completion of the Work:
 - 1. Remove from the Site all tools, surplus materials, equipment, scrap, debris and waste.
 - 2. Conduct final progress cleaning as described in Article 3.1 above.
- C. Site:
 - 1. Unless otherwise specifically directed by Engineer:
 - a. Hose down paved areas on Site and public sidewalks directly adjacent to the Site.
 - b. Rake clean other surfaces of the grounds.
 - 2. Remove resultant debris.

D. Buildings, Tanks and Other Structures:

1. Exterior:

- a. Visually inspect exterior surfaces.
- b. Remove traces of soil, waste material, smudges and other foreign matter.
- c. Remove traces of splashed materials from adjacent surfaces.
- d. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior surface.
- e. In the event of stubborn stains not removable with water, Engineer may require light sandblasting or other cleaning at no additional cost to Owner.

E. Timing: Schedule final cleaning as approved by Engineer to enable Owner to accept a completely clean Project.

END OF SECTION 01 74 00

SECTION 01 77 00 – CLOSEOUT 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 instructions for and the responsibilities of each party in contract closeout.

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.
- 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.

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. Field changes of dimension and detail.
 - b. Changes made by Field Order, Work Change Directive or Change Order.
 - c. Details not on original Contract Drawings.
- D. Specifications and Addenda:
 - 1. Legibly mark each Section to record:
 - a. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 - b. Changes made by Field Order, Work Change Directive or Change Order.

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 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. 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.

1.6 SUBMITTALS

- A. Predemolition Photographs:
 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).

1.8 PROJECT CONDITIONS

- A. Owner Occupancy:
 1. Owner will occupy portions of building immediately adjacent to and below 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.
 3. Do not store material or equipment in loading dock or approach drive.
- 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: Maintain existing utilities to remain in service and protect them against damage during selective demolition operations.

- F. Unknown Hazardous Materials:
 - 1. It is not expected that hazardous materials will be encountered in the Work.
 - 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner in accordance with the General Conditions.
 - 3. Hazardous materials will be removed by Owner under a separate contract.
- G. 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.

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 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.
2. Shoring and Bracing:
 - a. Provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - b. Strengthen or add new supports when required during progress of selected demolition.

3.3 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.

3.4 DELAMINATED CONCRETE SURFACE PREPARATION

A. Location and Marking of Work Areas:

1. Locate floor slab delaminations by sounding the surface with a hammer or rod, or dragging a chain. Sound all floor slabs. Further sound delaminated areas once located to define their limits. Mark these limits or "boundaries" with chalk or paint.
2. Locate beam, wall, column, and slab delaminations by sounding the appropriate member with a hammer or rod. Cracks, usually horizontal in orientation along beam faces and vertical in orientation near corners of columns, are reliable indicators of delaminated concrete. Further sound delaminated areas once located to define their limits. Mark these limits or "boundaries" with chalk or paint.
3. Prior to concrete removal locate reinforcing bars tendons, anchorages, and electrical conduits in the vicinity of the repairs. Take the necessary precautions to prevent.

B. Concrete Removal and Surface Preparation:

1. Remove concrete from within the marked boundary to a minimum depth as indicated on the Drawings using 15 to 30 pound chipping hammers equipped with chisel point bits. Larger chipping hammers with a maximum stroke of 4 inches shall not be used without approval from the Engineer. If delaminations exist beyond the minimum removal depth, then chipping shall continue until unsound and delaminated concrete has been removed from the cavity.
2. Where reinforcing bars are exposed by concrete removal, exercise extra caution to avoid damaging them during removal of additional unsound concrete. The minimum depth of concrete removal around and beyond the perimeter of the bar for the entire exposed length shall be as indicated on the Drawings.
3. If rust is present on reinforcing bars where they enter sound concrete, then additional removal of concrete along the reinforcement is required. Such additional removal shall continue until grey reinforcement is exposed. If rust persists beyond the removal limits, advise the Engineer and Engineer will direct further removals.

4. Sawcut delaminated, spalled and unsound concrete at their marked boundaries to a depth as indicated on the Drawings. Edges shall be straight and patch areas polygon shaped. A diamond blade saw or grinder with abrasive disk suitable for cutting concrete is acceptable for performing this work. Dress the edges cut at the delamination boundary perpendicular to the member face. It shall also be of uniform depth for the entire length of the cut.

- C. Preparation of Concrete Bonding Surface: Abrasive blast or high-pressure waterblast exposed concrete surfaces to remove laitance and foreign material that may impair bonding prior to concrete placement.
- D. Cleaning and Securing of Reinforcing: Refer to Division 03 Section "Concrete Reinforcement". Clean existing reinforcing and miscellaneous metals of rust and laitance to near white metal.
- E. Final Preparation: Air blasting is required as a final step to remove dust and debris.

3.5 INSPECTION

- A. Examine areas and conditions under which the Work is to occur. Notify the Engineer immediately in writing as required in the General Conditions of any conditions detrimental to the proper and timely completion of this Work.

3.6 FIELD QUALITY CONTROL

- A. After demolition is complete but prior to final cleaning, the cavities and all exposed reinforcement (including tendons) shall be reviewed by the Engineer. The review will include sounding the exposed concrete to determine completeness of delamination removals, examination of dressed edges to verify depth and vertical edge of cut, and uniformity of excavation to ensure compliance with minimum limits specified.
- B. The Engineer will review reinforcement exposed within the cavities for corrosion or damage resulting from Contractor's removal operations. Perform replacement of defective or damaged reinforcement bars in accordance with Division 03 Section "Concrete Reinforcement."
- C. Promptly make changes and additions required by Manufacturer's engineer.
- D. Submit Manufacturer's engineer's written approval of installation.

3.7 CLEANING

- A. Clean materials installed under this Section according to Division 01 Section "Cleaning and Waste Management."
- B. On a daily basis remove and properly dispose of concrete and debris from areas exposed to public view.

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 a Unit Price basis.

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. C136 – Sieve Analysis of Fine and Coarse Aggregates.
 - h. C142 – Slump of Hydraulic Cement Concrete.
 - i. C150 – Portland Cement.
 - j. C260 – Air-Entraining Admixtures for Concrete.
 - k. C309 – Liquid Membrane-Forming Compounds for Curing Concrete.
 - l. C494 – Chemical Admixtures for Concrete.
 - m. C1064 – Temperature of Freshly Mixed Hydraulic Cement Concrete.
 - 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.
 - 3. US Corps of Engineers:
 - a. EM – 1110-2 – Corp of Engineers Manual.
 - 4. International Concrete Repair Institute (ICRI).

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.
 - 5. Product Suitability:
 - a. Submit signed letter from Product Manufacturer's technical representative stating that they have visited the Site, reviewed conditions and agree that the products specified are suitable for this application.
 - b. The letter shall certify that the Product Manufacturer's technical representative:
 - 1) Is familiar with the project, aware of job conditions and aware of associated products, such as sealants, concrete repair products, and others proposed for the Project.
 - 2) Agrees with the intended application of their products as specified.
 - 3) Agrees with the surface preparation specified.
 - 4) Agrees with project specifications. If necessary, submit revisions to project specifications.
 - 5) Agrees that their product is compatible with associated products, such as sealants, concrete repair materials, and other proposed for the Project.
 - 6) Agrees with the type and quantity of testing specified to ensure their product is adequately installed.
 - 7) Agrees that components of concrete repair materials furnished comply with this Specification and are compatible.
- 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. Formwork:
 - 1. Design of formwork is the responsibility of the Contractor.
 - 2. Submit proposed method of forming to Engineer for review prior to placement of concrete.
 - a. Include materials and means of bracing and sealing formwork.
 - 3. Provide adequate means of ensuring complete filling of forms with concrete using bird's mouths or other methods.
 - 4. Refer to ACI 347R for assistance with design of formwork.

- C. The patched areas shall be sounded with a hammer 7 days after placement. Repair all detected hollowness by removing and replacing the patched or affected area at no extra cost to the Owner.
- D. If shrinkage cracks appear in the repair material within 72 hours after placement, the repairs shall be considered defective, and shall be removed and replaced at no extra cost to the Owner.
- E. Plan drawings shall be maintained locating all repairs performed under this section. Location and size of patches, overlays, etc. must be located on clean drawings. Separate drawings shall be maintained for each level. These drawings shall be incorporated into record set required per Division 1.
- F. The Contractor, or Restoration Subcontractors, shall have not less than two years' experience in the field of structural concrete restoration work.

1.7 WARRANTY

- A. Installed products under this section shall be fully warranted for a period of one year against defects in materials or workmanship commencing with the date of Substantial Completion.
- B. Responsibilities of Each Party:
 - 1. Contractor: Shall act as the agent for the Owner in collecting and enforcing submission of the warranty requirements prior to Substantial Completion of the project.
 - 2. Installation Contractor: Responsible for 100% of the labor to remove and replace the defective material if a failure occurs within the warranty period.
 - 3. Manufacturer: Responsible for supplying 100% of replacement material in case of a failure during the warranty period unless stated otherwise in the warranty.
 - 4. The installation contractor and material supplier specifically agree that the warranty is a joint and several type of warranty where, in case of default of either party, the other party is then responsible for 100% of all the work in accordance with the original contract documents. The warranty form shall be jointly signed by authorized representatives from both the installation contractor and the manufacturer.
- C. Specific Warranty Requirements:
 - 1. The one-year comprehensive warranty shall specifically cover the following:
 - a. A fully complete 100% warranty for all workmanship and material for the repairs.
 - b. Delamination of the coating or substrate.
 - c. Any damage to material or equipment caused by coating system failure.
 - d. Ordinary wear and tear.
 - e. Failures due to improper surface preparation, use of non-approved materials, insufficient thickness for any part of the system including primer(s), faulty workmanship, or non-approved deviations from current manufacturer's specifications and written instructions.
 - f. Material incompatibility with any existing coating.
- D. Replacement Cost:
 - 1. The warranty shall cover 100% of the replacement cost whether or not the Owner has benefitted from use of the product through part of its useful life.
 - 2. When the work covered by the warranty has failed, the replacement work shall be warranted to cover the original remaining warranty period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. 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.

- B. Vertical and Overhead (Walls and Ceilings) Trowelable Concrete Repairs:
 - 1. MasterEmaco S 488CI, BASF, Shakopee, MN.
 - 2. Sikatop 122 Plus or 123 Plus, Sika Corp., Lyndhurst, NJ.
 - 3. Planitop 23, or X, Mapei, Deerfield Beach, FL.
 - 4. Or approved equivalent.
- C. Vertical and Overhead (Walls and Ceilings) Form and Pour Concrete Repairs:
 - 1. MasterEmaco S 466CI or S 477CI, BASF, Shakopee, MN.
 - 2. Sikatop 111 Plus or Sikacrete 211 SCC Plus, Sika Corp., Lyndhurst, NJ.
 - 3. Planitop 15 or FD, Mapei, Deerfield Beach, FL.
 - 4. Or approved equivalent.
- D. Horizontal (Slabs) Trowelable Concrete Repairs:
 - 1. Sikatop 111 Plus or Sikacrete 211 SCC Plus, Sika Corp., Lyndhurst, NJ.
 - 2. MasterEmaco S 466CI or S 477CI, BASF, Shakopee, MN.
 - 3. Planitop 15 or FD, Mapei, Deerfield Beach, FL.
 - 4. Or approved equivalent.
- E. Crack Repair Rout and Patch:
 - 1. PATCH'N PLUG by XYPEX.
 - 2. Or Approved Equivalent.
- F. Corrosion Inhibitor:
 - 1. For surface application on reinforcing bars only:
 - a. Sika Armatec 110 Epo Cem by Sika.
 - b. Dural Prep AC by Euclid.
 - c. ECB by Conproco.
- G. 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.
- H. 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 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. 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.
 2. Provide other preparation as required by the Manufacturer of the patching compounds.
 3. Inform Engineer at least 2 days in advance of concrete repair placement to allow adequate time for Engineer to schedule inspection.
 4. Use form and fill method, trowel on fill method, or shotcrete fill method, as Manufacturer recommends.
 5. 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.
 6. Place concrete continuously at each repair area until reinforcing steel is encapsulated, forms are full and air pockets are eliminated.
 7. 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.
 8. Protect freshly applied concrete from premature drying and maintain with minimal moisture loss at a relatively constant temperature for a minimum of 7 days.
 9. Use a form release agent that is compatible with specified curing compounds.
 10. Leave forms in place for a minimum of 3 days.
 11. Immediately after removing forms, either wet cure or apply at least 2 coats of curing compound in accordance with Manufacturer's recommendations.
 12. 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 patch repair material Manufacturer's specific guidelines where more stringent than those specified herein.
 3. Patch 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 FIELD QUALITY CONTROL
- A. Manufacturer's Engineer: Check work.
 - B. Promptly make corrections, changes, and additions required by Manufacturer's engineer.

3.4 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 03 15 00 – CONCRETE ACCESSORIES

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 concrete accessories.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Miscellaneous Steel Shapes, Plates, and Bars:
 - 1. W-Shapes: ASTM A992.
 - 2. Channels, Angles: ASTM A36.
 - 3. Plates and Bars: ASTM A36. Include bolts, nuts, and washers.
 - 4. All steel shall be galvanized.
- B. Anchor Bolts: Hot-dip galvanized ASTM A153.
- C. Bolts: ASTM A307 or A325 as indicated on Drawings.
- D. Wedge Anchors
 - 1. Provide sizes and types as indicated on Drawings.
 - 2. All wedge anchors to be Type 303/304 Stainless steel as indicated on the Drawings.
 - 3. Installation in accordance with Manufacturer's recommendations.
 - 4. Acceptable Materials:
 - a. Trubolt Wedge Anchor, ITW Ramset/Redhead.
 - b. Kwik Bolt, Hilti, Inc.
 - c. Or approved equivalent.
- E. Adhesive Anchors:
 - 1. Provide sizes and types as indicated on Drawings.
 - 2. All threaded rods and associated hardware to be Type 303/304 stainless steel as indicated on Drawings.
 - 3. Injection gel to be two-component epoxy ASTM C881.
 - 4. Stainless steel screens as indicated on Drawings or as recommended by Manufacturer.
 - 5. Installation in accordance with Manufacturer's recommendations.
 - 6. Acceptable Materials:
 - a. C6+, ITW Ramset/Redhead.
 - b. Hit RE-500, Hilti, Inc.
 - c. AC100+ Gold, Powers Fasteners Inc.
 - d. Or approved equivalent.
- F. Other Materials: All other materials not specifically described but required for a complete and proper installation of concrete accessories shall be as selected by Contractor subject to the approval of Engineer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install Concrete Accessories:
 - 1. As indicated on the Drawings.
 - 2. As specified in various other Sections.
 - 3. In accordance with manufacturer's printed installation instructions.
 - 4. As necessary for the proper and complete performance of the Work.
- B. Contractor is responsible for proper placing of all embedded pipe, conduit, and other fixtures.
- C. Minimum cover requirements for reinforcing shall apply to all embedded items unless indicated otherwise on Drawings.
- D. Use suitable templates to accurately set and support bolts, inserts, sleeves, or other embedded items against displacement.

END OF SECTION 03 15 00

SECTION 03 30 03 – CAST-IN-PLACE CONCRETE (RESTORATION)

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 formwork, reinforcement and concrete.
- B. Basis of Contract Payments:
 - 1. Determine final Contract Price by actual quantities installed at unit prices stated in Contractor's Bid for the following:
 - a. Measure slab patching quantities on a square foot basis; estimated depth of patch is indicated on the Drawings on a unit cost basis. Refer to Section "Bid Form."
 - b. Identify current quantities with each payment request. Work must be properly identified.
 - c. Submit Drawings shall be incorporated into record set required in accordance with Division 01.

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. ACI - American Concrete Institute:
 - a. 301 - Specifications for Structural Concrete.
 - b. 304R - Guide for Measuring, Mixing, Transporting and Placing Concrete.
 - c. 305R - Hot Weather Concreting.
 - d. 306R - Cold Weather Concreting.
 - e. 309R - Guide for Consolidation of Concrete.
 - f. 318 - Building Code Requirements for Structural Concrete.
 - g. 347R - Guide to Formwork for Concrete.
 - 2. ASTM Standard Specifications, Test Methods, and Classifications:
 - a. A185 – Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
 - b. A615 - Specification for Deformed and Plain Billet - Steel Bars for Concrete Reinforcement.
 - c. A1064 - Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - d. C31 – Practice for Making and Curing Concrete Test Specimens in the Field.
 - e. C33 - Specification for Concrete Aggregates.
 - f. C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - g. C94 - Specification for Ready-Mixed Concrete.
 - h. C138 – Test Method for Density (Unit Weight), Yield and Air Content (Gravimetric) of Concrete.
 - i. C143 – Test Method for Slump of Hydraulic-Cement Concrete.
 - j. C150 - Specification for Portland Cement.
 - k. C172 - Practice for Sampling Freshly Mixed Concrete.
 - l. C173 - Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - m. C231 - Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - n. C260 - Specification for Air-Entraining Admixtures for Concrete.
 - o. C309 - Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
 - p. C494 - Specification for Chemical Admixtures for Concrete.
 - q. C595 – Blended Hydraulic Cement.
 - r. C618 - Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
 - s. C989 - Specification for Slag Cement for Use in Concrete and Mortars.

1.4 DESIGN AND PERFORMANCE REQUIREMENTS

- A. Formwork: Perform the design and engineering of formwork, as well as its construction.

1.5 SUBMITTALS

- A. Product Data: For review and approval of installation with the following:
 - 1. Provide product data of materials and methods for concrete curing prior to beginning Work.
 - 2. Mix Design Data: For review and approval of the concrete specified herein including the following information:
 - a. Mix method, according to ACI 318 requirements.
 - b. Weight of material per cubic yard, according to ASTM C29 requirements.
 - c. Type of cement and manufacturer, according to ASTM C172 requirements.
 - d. Cement content, bags per cubic yard.
 - e. Amount of superplasticizing agent.
 - f. Water/cement ratio.
 - g. Amount of air entraining agent, according to ASTM C231 requirements.
 - h. Volumetric air content percent, according to ASTM C173 requirement.
 - i. Sieve analysis and source, coarse aggregate, according to ASTM C13, C33, C330 requirements.
 - j. Sieve analysis and source, fine aggregate according to ASTM C136, C33, C330 requirements.
 - k. Weight, hardened pounds per cubic foot, according to ASTM C138 requirements.
 - l. Slump range, according to ASTM C143 requirements.
 - m. 7-day compressive strength, according to ASTM C31 C39 requirements.
 - n. 28-day compressive strength, according to ASTM C31 C39 requirements.
- B. Shop Drawings: Submit for review and approval:
 - 1. Submit sufficient information and dimensions necessary for the review, proper fabrication, correct placing of reinforcing steel and accessories, and the correct location of any control, expansion, isolation, and construction joints.
- C. Certifications:
 - 1. Submit a written description of the concrete repair ability, including equipment, facilities, personnel, and a list of similar completed projects.
 - 2. Submit warranty of the design mix that such mix is totally representative of the concrete(s). Provide for review each new design mix when changes in material is required or needed.
 - 3. Submit upon request for record certified cement mill test reports for each type and run of cement used in the Work (ASTM C150).
 - 4. Upon request submit certified laboratory chemical and other analyses for aggregates and admixtures as deemed necessary.
 - 5. Submit documentation that ready mix concrete conforms to Contract Documents and design mix.
 - 6. Submit certification that batched concrete conforms to Contract Documents and design mix.
- D. Samples: Submit upon request for review and approval samples of joint materials.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Cold Weather Concreting: In accordance with ACI 306 or as specified herein.
- B. Hot Weather Concreting: In accordance with ACI 305 or as specified herein.
- C. Inclement Weather:
 - 1. Unless adequate protection is provided, concrete shall not be placed during rain, sleet or snow.
 - 2. Rain water shall not be allowed to increase the mixing water nor to damage the surface finish.

1.7 QUALITY ASSURANCE

- A. Concrete Material Testing:
 - 1. Contractor shall provide the services of an independent concrete testing laboratory.
 - 2. Point of sampling and method of sampling: In accordance with ASTM C172.
 - 3. Slump Tests:
 - a. Perform slump tests in accordance with ASTM C143.
 - b. Perform one slump test on the Site for each load of concrete.
 - 4. Perform 1 air-entraining test in accordance with ASTM C231 or C173 for each load of concrete.
 - 5. Test the concrete unit weight in accordance with ASTM C138.

6. Concrete Cylinder Testing:
 - a. In accordance with ASTM C31 and C39.
 - b. Take concrete cylinder Samples for each load of concrete.
 - c. Concrete cylinder Sample shall consist of a minimum of four 4x8 or 6x12 cylinders.
 - d. Handle cylinders carefully.
 - e. On Site Storage:
 - 1) 12 hours, minimum, 48 hours maximum.
 - 2) At a temperature range of 60 to 80 degrees F and in a moist environment.
 - 3) Shielded from direct sunlight and radiant heat.
 - 4) Construct heated or water bath enclosures, as applicable, if conditions require.
 - f. Provide laboratory curing for duration of curing after on Site storage.
 - g. Test 1 of the cylinders at 7 days and 2 cylinders at 28 days. Save 1 cylinder as a spare.
 - h. Acceptance and evaluation of the concrete shall be based on ACI 301.
- B. Sound the patched areas by the Contractor with a chain drag or hammer 7 days after concrete placement. Repair hollowness detected by removing and replacing the patch or affected area at no extra cost to the Owner.
- C. Maintain Drawings locating concrete repairs performed under this section. Location and size of patches, overlays, etc. must be located on plan Drawings. Separate Drawings shall be maintained for each Level and ceiling plan.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Formwork:
 1. Form grade plywood or metal panels; no torn edges or worn plywood.
 2. Form Release Agent: Non-staining, non-emulsifiable type.
 3. Form ties, spreaders, and accessories as required by the formwork design.
 4. Provide chamfered strips in exposed corners of concrete.
- B. Reinforcement:
 1. Reinforcing Bars:
 - a. ASTM A615.
 - b. Yield Stress: $F_y = 60,000$ psi, Grade 60.
 2. Welded Wire Fabric:
 - a. ASTM A185 or A1064.
 - b. Yield Stress: $F_y = 65,000$ psi.
 3. Accessories resting on surfaces to be left exposed as finished surfaces shall have plastic coated legs.
- C. Concrete Materials:
 1. Portland Cement: ASTM C150, Type I, or A595, Type 1L.
 2. Fly Ash: ASTM C618, Class C or F.
 3. Ground-Granulated Blast Furnace (GGBF) Slag: ASTM C989, Grade 100 or 120.
 4. Fine and Coarse Aggregates:
 - a. Inert, non-chemically reactive, and non-radioactive.
 - b. Conforming with ASTM C33.
 5. Water: Clean, fresh, and potable.
 6. Air-Entrainment:
 - a. ASTM C260.
 - b. For all concrete mixes except interior floor slabs and pads.
 7. Water Reducing Agents: ASTM C494.
 8. No calcium chloride allowed in materials used in concrete mix.
 9. Membrane Curing Compounds: ASTM C309.

2.2 CONCRETE MIXES

- A. Proportioning:
 - 1. Proportions of materials for concrete shall be in accordance with ACI 211.1.
 - 2. Refer to Drawings for concrete mix requirements.

2.3 SOURCE QUALITY CONTROL

- A. Production and Delivery:
 - 1. Batch, mix and transport ready mixed concrete in accordance with ASTM C94.
 - 2. Furnish ready-mix delivery tickets with each batch of concrete before unloading at the Site, on which is printed, stamped or written the following information:
 - a. Name of ready-mix batch plant.
 - b. Serial number of ticket.
 - c. Date and truck number.
 - d. Name of Contractor.
 - e. Project name and location.
 - f. Specific class of designation of concrete.
 - g. Amount of concrete (cubic yards).
 - h. Time loaded or of first mixing of cement and aggregates.
 - i. Type, name and amount of admixture.
 - 3. Minor amounts of concrete may be mixed on Site with prior review by Engineer.

PART 3 - EXECUTION

3.1 ERECTION AND PLACEMENT

- A. Forms:
 - 1. Provide required forms, shores, bracing, breast timbers, form ties and accessories in sufficient quantities so as not to delay the work.
 - 2. Coordinate work with other trades for the installation of embedded items and form penetrations.
 - 3. Form Removal:
 - a. No earlier than 3 days for columns and walls.
 - b. No earlier than 7 days for beams and slabs.
- B. Reinforcement:
 - 1. Free from rust scale, loose mill scale, oil, paint, and other coatings which will destroy or reduce bond between steel and concrete at the time concrete is placed around it.
- C. Concrete:
 - 1. Handle concrete from mixer to place of final deposit in carts, buggies or conveyors.
 - 2. Compact concrete by mechanical vibration equipment, but do not transport concrete through forms by vibrating.
 - 3. Concrete Finish:
 - a. Formed Surfaces: Smooth formed finish.
 - b. Unformed Exposed Surfaces: Medium broomed finish unless specified otherwise or required for surface conditions for subsequent coatings.
 - 4. As soon as possible after finishing or removing forms, treat surfaces with a liquid membrane-forming curing compound unless specified otherwise.
 - 5. Protect freshly placed concrete from damage due to extreme temperatures in accordance with ACI 305R and ACI 306R.

END OF SECTION 03 30 03

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Roofing nailers.

1.2 REFERENCE STANDARDS

- A. AWPA U1 - Use Category System: User Specification for Treated Wood; 2021.
 - 1. C27 – Fire Retarded Treatment – Plywood.
 - 2. M4 - Care of Preservative-Treated Wood Products.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with UC3B and requirements of specified grading agencies.
 - 1. Species: Southern Pine, unless otherwise indicated.
 - 2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
 - 3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Metal and Finish: Stainless Steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.2 ROOF-RELATED CARPENTRY

- A. Coordinate any necessary installation of roofing carpentry with roofing assembly installation.

END OF SECTION 06 10 00

SECTION 07 01 50.19 - PREPARATION FOR RE-ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Replacement of existing roofing system in preparation for entire new roofing system, including removing and replacing all membrane, insulation, air/vapor barrier, and coverboard down to the existing concrete deck.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene two weeks before starting work of this section.
 - 1. Attendees:
 - a. Architect.
 - b. Contractor.
 - c. Owner.
 - 2. Meeting Agenda: Provide agenda to participants prior to meeting in preparation for discussions on the following:
 - a. Removal and installation schedule.
 - b. Necessary preparatory work.
 - 1) Contractor to inspect site conditions including interior prior to commencing work.
 - c. Protection before, during, and after roofing system installation.
 - d. Removal of existing roofing system.
 - e. Installation of new roofing system.
 - f. Inspections and testing of installed systems.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- B. Coordinate off-roof storage, staging, and delivery routes with Owner.

1.4 FIELD CONDITIONS

- A. Existing Roofing System: TPO single-ply roofing.
- B. Do not remove existing roofing membrane when weather conditions threaten the integrity of building contents or intended continued occupancy.
- C. Maintain continuous temporary protection prior to and during installation of new roofing system.
- D. Owner will occupy building areas directly below re-roofing area.
 - 1. Provide Owner with at least 48 hours written notice of roofing activities that may affect their operations and to allow them to prepare for upcoming activities as necessary.
 - 2. Do not disrupt Owner's operations or activities.
 - 3. Maintain access of Owner's personnel to corridors, existing walkways, and adjacent buildings.
- E. Do not disturb or disrupt interior elements that may be attached through the roof deck. Conditions are currently unknown, verify prior to start of construction activities.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. See the following sections for additional information on components relating to this work:
 - 1. Replacement and removal of existing roofing system in preparation for entire new roofing system, see Section 07 54 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing roof surface has been cleared of materials being removed from existing roofing system and ready for next phase of work as required.

3.2 PREPARATION

- A. Sweep roof surface clean of loose matter.
- B. Remove loose refuse and dispose of properly off-site.

3.3 MATERIAL REMOVAL

- A. Remove only existing roofing materials that can be replaced with new materials the same day.
- B. Remove roofing membrane, perimeter base flashings, flashings around roof protrusions, and related accessories.

END OF SECTION 07 01 50.19

SECTION 07 54 00 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Adhered system with thermoplastic roofing membrane.
- B. Insulation, flat and tapered.
- C. Vapor retarder.
- D. Cover boards.
- E. Flashings.
- F. Roofing stack boots.

1.2 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers and curbs.
- B. Section 07 01 50.19 - Preparation for Re-Roofing.
- C. Section 07 62 00 - Sheet Metal Flashing and Trim: Counterflashings and reglets.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate installation of associated counterflashings with mechanical work by others.

1.4 SUBMITTALS

- A. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, fasteners, and specified accessories.
- B. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, setting plan for tapered insulation, and mechanical fastener layout.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 - 1. Submit copy of Pre-Installation Notice indicating that the Project has been reviewed and approved by the membrane manufacturer.
- D. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- E. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
 - 1. Minimum Report Requirements:
 - a. Date, time, and weather conditions during visit.
 - b. Summary of roofing activities present during visit.
 - c. Summary of discussions that occurred and a list of those in attendance.

- d. List of corrective measures noted during inspection, include a roof plan clearly indicating locations.
 - e. Review of corrective measures noted during previous visits and indication of whether each item has been corrected or not.
 - f. Submit report within five days of visit.
- F. Warranty Documentation:
- 1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - 2. Submit installer's written verification that installation complies with warranty conditions for waterproof membrane.
 - 3. Manufacturer's letter of acceptance of the project installation and acknowledgement that the project installation is eligible for the specified system warranty.
- G. Manufacturer and Installer qualifications required in the Quality Assurance section below.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum fifteen years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of this section with at least ten years of documented experience.
- 1. Approved and licensed, in good standing, by membrane manufacturer for a minimum of ten consecutive years.
 - 2. Approved, authorized, or licensed by roofing system manufacturer to install manufacture's product and that is eligible to receive the specified manufacture's system warranty.
 - 3. Fully staffed office within 100 miles of the project site with resources to respond on-site to Warranty claims within 24 hours notice.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact, unless otherwise indicated.
- B. Store materials in weather protected environment, clear of ground and moisture.
- C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- D. Protect foam insulation from direct exposure to sunlight.

1.7 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above.
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

- E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.8 WARRANTY

- A. Material Warranty: Provide membrane manufacturer's warranty agreeing to replace material that shows manufacturing defects within five years after installation.
- B. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind or other causes.
 - 1. Warranty Term: 30 years.
 - 2. For repair and replacement include costs of both material and labor in warranty.
 - 3. Wind Speed: 90 MPH.
 - 4. Flashing and roof edge system/ coping integral to the roof system regardless of whether they are specified in this Section or elsewhere.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Thermoplastic Polyolefin (TPO) Membrane Roofing Materials:
 - 1. Carlisle SynTec Systems; Sure-Weld TPO: www.carlisle-syntec.com/#sle.
 - 2. Elevate; UltraPly TPO: (Firestone Building Products): www.holcimelevate.com/#sle.

2.2 ROOFING - UNBALLASTED APPLICATIONS

- A. Thermoplastic Membrane Roofing: One ply membrane, fully adhered, over insulation and cover board.
- B. Roofing Assembly Requirements:
 - 1. Roof Covering External Fire Resistance Classification: UL (FRD) Class A.
 - 2. Factory Mutual Classification: Class 1 and windstorm resistance of 1-90 in Zone 1' & 1 with windstorm resistance of 1-120 in subsequent zones, in accordance with FM DS 1-28.
 - 3. Hail Rating: SH.
 - 4. System Design: Tested by a qualified testing agency to resist the loads associated with the calculated Factory Mutual windstorm resistance rating or the loads required by the specified wind speed warranty, whichever is greater.
- C. Acceptable Insulation Types - Constant Thickness Application: Any of types specified.
 - 1. Minimum 2 layers of polyisocyanurate board.
- D. Acceptable Insulation Types - Tapered Application: Any of types specified.
 - 1. Tapered polyisocyanurate board covered.

2.3 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

- A. Membrane Roofing Materials:
 - 1. TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrim.
 - a. Thickness: 80 mil, 0.080 inch, minimum.
 - 2. Color: White.
- B. Seaming Materials: As recommended by membrane manufacturer.

- C. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials.
 - 1. Elevate; V-Force.
 - 2. Carlisle Syntec; VapAir Seal MD.
- D. Flexible Flashing Material: Same material and color as membrane.

2.4 COVER BOARDS

- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
 - 1. Thickness: 5/8 inch, Type X, fire-resistant.
 - 2. Products:
 - a. Georgia-Pacific; DensDeck: www.densdeck.com/#sle.

2.5 INSULATION

- A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
 - 1. Classifications:
 - a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
 - 1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
 - 2) Compressive Strength: Classes 1-2-3, Grade 2, 20 psi (138 kPa), minimum.
 - 2. Tapered Board: Slope as indicated; minimum thickness 0.25 inch; fabricate of fewest layers possible.
 - 3. Board Edges: Square.
 - 4. Manufacturers: As approved by roof system manufacturer.

2.6 ACCESSORIES

- A. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.
- B. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 - 1. Length as required for thickness of insulation material and penetration of deck substrate, with metal washers.
- C. Membrane Adhesive: As recommended by membrane manufacturer.
- D. Insulation Adhesive: As recommended by insulation manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.

- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and nailing strips and reglets are in place.
- F. Start of Work indicates acceptance of substrate conditions.

3.2 PREPARATION - CONCRETE DECK

- A. Ensure existing deck is suitable for insulation installation in accordance with manufacturer requirements. Inform Architect of any uncovered defects in the deck system.

3.3 INSTALLATION, GENERAL

- A. Perform work in accordance with manufacturer's instructions, NRCA (RM), and NRCA (WM) applicable requirements.
- B. Do not apply roofing membrane during cold or wet weather conditions.
- C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

3.4 INSTALLATION - VAPOR RETARDER AND INSULATION, UNDER MEMBRANE

- A. Install vapor retarder to deck surface with adhesive in accordance with manufacturer's instructions.
 - 1. Extend vapor retarder under cant strips and blocking to deck edge.
 - 2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.
- B. Ensure vapor retarder is clean and dry, continuous, and ready for application of insulation.
- C. Attachment of Insulation:
 - 1. Embed all layers of insulation into full bed of adhesive in accordance with roofing and insulation manufacturers' instructions.
 - a. Offset insulation seams per manufacturers requirements.
- D. Cover Boards: Embed cover board in adhesive in full contact, in accordance with roofing manufacturer's instructions.
- E. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.
- F. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions and approved Shop Drawings.

- G. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- H. Do not install more insulation than can be covered with membrane in same day.

3.5 INSTALLATION - MEMBRANE

- A. Apply membrane roofing system in accordance with manufacturer's recommendations and NRCA (WM) applicable requirements.
- B. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- C. Shingle joints on sloped substrate in direction of drainage.
- D. Fully Adhered Application: Apply adhesive to substrate per manufacturer requirements. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- E. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
 - 1. Use hot-air welding devices approved by the roof system manufacturer and specifically designed for roofing hot-air welding applications.
 - 2. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
 - 3. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 - 4. Repair tears, voids, fish-mouths, and lapped seams in roofing that do not comply with requirements.
 - 5. Calibrate hot-air welding devices as required by the manufacturer and at the following minimum intervals:
 - a. Start of each work day.
 - b. Every four hours during each work day.
- F. At intersections with vertical surfaces:
 - 1. Extend membrane up a minimum of 8 inches onto vertical surfaces.
 - 2. Fully adhere flexible flashing over membrane and up to nailing strips.
 - 3. Secure flashing to nailing strips at 4 inches on center.
- G. Around roof penetrations, seal flanges and flashings with flexible flashing.
- H. Install roofing expansion joints where indicated. Make joints watertight.
- I. Coordinate installation of roof drains and sumps and related flashings.
- J. Coordinate installation of associated counterflashings installed under other Sections.

3.6 FIELD QUALITY CONTROL

- A. Require on-site attendance of roofing material manufacturer's as indicated below during installation of the Work.
 - 1. Pre-Installation Meeting
 - 2. Twice during the first week, including once on the first day of system installation.
 - 3. Complete of system installation.

3.7 CLEANING

- A. Remove bituminous markings from finished surfaces.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.
- C. Repair or replace defaced or damaged finishes caused by work of this section.
- D. Clean debris from roof and from around drains daily. Do not wash debris down drains.

3.8 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.
- C. Prohibit smoking during all phases of roof system installation.

END OF SECTION 07 54 00

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings and flashings.
- B. Sealants for joints concealed within sheet metal fabrications.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause galvanic reaction, discoloration, or staining.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

- A. Pre-Finished Aluminum: ASTM B209/B209M; 18 gauge, 0.040 inch thick; plain finish shop pre-coated with PVDF coating.
 - 1. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; pretreated metal with two-coat system including primer and color coat with at least 70 percent PVDF coating.
 - 2. Color: As selected by Architect from manufacturer's standard colors.

2.2 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/4 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

2.3 ACCESSORIES

- A. Fasteners: Stainless steel, with soft neoprene washers.
- B. Primer Type: Zinc chromate.
- C. Concealed Sealants: Non-curing butyl sealant.
 - 1. Do not use butyl sealants when they could come into contact with silicone materials. Use silicone sealants in such an event.
- D. Exposed Sealants: Low-modulus silicone.

PART 3 EXECUTION

3.1 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.2 INSTALLATION

- A. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- B. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction, and as follows:
 - 1. Secure receiver at perimeter of wall opening with adhesives or fasteners.
 - 2. Place flashing into receiver channel.
- C. Seal metal joints watertight.

END OF SECTION 07 62 00

SECTION 07 71 00 - ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manufactured roof specialties, including fascias.

1.2 REFERENCE STANDARDS

- A. NRCA (RM) - The NRCA Roofing Manual; 2022.
- B. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.3 SUBMITTALS

- A. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.
- B. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.
- C. Manufacturer's Installation Instructions: Indicate special procedures, fasteners, supporting members, and perimeter conditions requiring special attention.

1.4 WARRANTY

- A. Roof specialties shall be included in total roof-system warranty specified in Division 07 "Thermoplastic Membrane Roofing".
- B. Painted Finishes: Manufacturer agrees to replace roof specialties that show evidence of deterioration of factory-applied finishes within the specified roof-system warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Thermal Movement: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime sky heat loss.
 - 1. Temperature Change (Range): 120 degrees F ambient; 180 degrees F material surfaces.

2.2 COMPONENTS

- A. Roof Edge Flashings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
 - 1. Configuration: Fascia and edge securement for roof membrane;
 - 2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 RE-1 and RE-2 to positive and negative design wind pressure as defined by the greater of the requirements listed below.
 - a. FM rating of roof system.
 - b. Wind speed warranty of roof system.
 - 3. Exposed Face Height: As indicated on drawings.
 - 4. Material: Formed aluminum sheet, 0.050 inch thick, minimum.
 - 5. Cleat Rail: Extruded aluminum, 0.050 inch thick, minimum.
 - 6. Finish: 70 percent polyvinylidene fluoride.
 - 7. Color: Match existing color.
 - 8. Products:
 - a. Manufacturer shall be the same manufacturer as the membrane roofing system. Acceptable products include:
 - 1) Elevate (Firestone Building Products): EdgeGard+Fascia.
 - 2) Carlisle Syntec: SecurEdge 200 Fascia.
 - b. Substitutions: Not permitted.

2.3 FINISHES

- A. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.
- B. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.4 ACCESSORIES

- A. Sealants for roof edge flashing and copings:
 - 1. Concealed : Butyl as recommended by component manufacturer.
 - 2. Exposed: Low-modulus silicone.
- B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.
- C. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements.
 - 1. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
 - 2. Fasteners for Zinc-Coated (Galvanized) Steel: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153/A 153M or STSM F 2329.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.

3.2 INSTALLATION

- A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
- B. Seal joints within components when required by component manufacturer.
- C. Anchor components securely.
 - 1. Exposed fasteners shall not be permitted without pre-approval from Architect.
- D. Coordinate installation of components of this section with installation of roofing membrane and base flashings.
- E. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.
- F. Coordinate installation of flashing flanges into reglets.
- G. Expansion Provisions:
 - 1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
 - 2. Provide pre-finished splice plates below joints in exposed face metal. Seal joints for watertight construction, sealant shall be completely concealed in joint.
- H. Do not use graphite pencils to mark metal surfaces.
- I. Torch cutting of roof specialties shall not be permitted.

3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Remove temporary protective coverings and strippable films as components are installed. Upon completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet debris, and pieces of flashing. Maintain components and systems in a clean condition during construction.
- C. Replace items that have been damaged or that cannot be successfully repaired by finish touch-up or similar minor repair.

END OF SECTION 07 71 00

SECTION 07 92 23 – JOINT SEALANTS

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 furnishing labor, materials, equipment, and supervision to install joint sealants, including surface preparation.
- B. Basis of Contract Payments:
 - 1. Joint sealants will not be paid for separately. Cost shall be included in other work items.

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: Manufacturer's spec data sheets of each product to be used.
 - 2. Samples:
 - a. For each type of joint sealant, including colors.
 - 3. Quality Assurance/Control Submittals:
 - a. Complete description of the joint sealant system including:
 - 1) Primer, sealant material, and backer rods or bond breakers.
 - 2) Indicate placement and installation procedures.
 - 3) Material working requirements, shelf life, and performance data.
- B. Informational Submittals:
 - 1. Sequence of sealant placement in structure. Coordinate the sealant installation to allow required minimum concrete cure times.
 - 2. Safety Data Sheets (SDS) of each product, solvent, or related chemicals to be used and certification that materials conform to local, state and federal environmental and worker's safety laws and regulations.
 - 3. Certification that joint sealant system is compatible with products of Divisions 03, 07, and 09 to which it will come in contact.

1.4 PROJECT CONDITIONS

- A. Manufacturer and installer are required to confirm that materials used in accordance with this Section conform to local, state, and federal environmental and workers' safety laws and regulations.
 - 1. VOC content of materials shall not exceed the limits of Environmental Protection Agency National Volatile Organic Compound Emission Standards for Architectural Coatings (40CFR59).

1.5 QUALITY ASSURANCE

- A. Joint Sealant Installer Qualifications:
 - 1. Approved by joint sealant Manufacturer.
 - 2. Have a minimum of 5 years' experience in application of one of approved joint sealant systems and have experience for a project in size of 5,000 lineal feet or greater.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unbroken, brand marked containers or wrapping as applicable. Include the following information:
 - 1. Name of product.
 - 2. Name of Manufacturer.
 - 3. Date of manufacture.
 - 4. Lot or batch number.
 - 5. UL labels.
- 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.
- 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.
- D. Do not allow the weight of stored material placed on a slab area to exceed 20 psf or 1,200 pounds over 20 square inches.

PART 2 - PRODUCTS

2.1 JOINT SEALANT SYSTEM - SINGLE-COMPONENT POLYURETHANE

- A. Vertical and Cove Joint Sealants:
 - 1. Single-component, non-sag unmodified polyurethane sealant, gray in color unless otherwise indicated, containing no coal tar, asphalt, or other adulterants, and conforming to ASTM C920, Type M, Grade NS, Class 25, use NT and Federal Specification TT-S-00227E, Type II, Class A.
 - 2. Reviewed Vertical and Cove Joint Sealants:
 - a. Iso-Flex 830, LymTal International, Inc., Orion, MI.
 - b. 301-NS, Pecora Corp., Harleysville, PA.
 - c. Sikaflex - 1a, Sika Corp., Lyndhurst, NJ.
 - d. MasterSeal NP1, BASF, Shakopee, MN.
 - e. Vulkem 116, Tremco Inc., Cleveland, OH.
 - f. Dymonic 100, Tremco Inc., Cleveland, OH.
 - g. Chem-Calk 915, Bostik, Middleton, MA

2.2 BACKER ROD

- A. Diameter: As recommended by Manufacturer for joint sizes indicated on the Drawings.
- B. Extruded round, closed cell or bi-cellular, low-density polyethylene or polyolefin foam material with a skin-like outer texture.
- C. Reviewed Closed Cell Backer Rods:
 - 1. Mile High Foam Backer Rod, Backer Rod Manufacturing, Inc., Denver, CO.
 - 2. ITP Standard Backer Rod Insulation, Industrial Thermo Polymers Limited, Buffalo, NY.
 - 3. HBR, Nomaco, Inc., Zebulon, NC.
 - 4. MasterSeal 920 Closed-Cell Backer-Rod, BASF Building Systems, Shakopee, MN.
- D. Reviewed Bi-cellular Backer Rods:
 - 1. ITP Soft-Type Backer Rod, Industrial Thermo Polymers Limited, Buffalo, NY.
 - 2. SOF Rod, Nomaco, Inc., Zebulon, NC.
 - 3. MasterSeal 921 Soft Backer-Rod, BASF Building Systems, Shakopee, MN.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect surfaces to receive Work and report immediately in writing to Engineer as required in General Conditions deficiencies in surface which render it unsuitable for proper execution of this Work.
 - 1. Do not proceed with Work until unsatisfactory conditions have been corrected in an acceptable manner.
 - 2. Commencement of Work implies acceptance of related Work.
- B. Coordinate and verify that related Work meets following requirements.
 - 1. Concrete surfaces are finished, cleaned, and prepared as specified by Manufacturer for system to be installed.

3.2 PREPARATION

- A. Grind joint edges smooth and straight prior to installation.
- B. Surfaces that are to receive joint sealant shall be dry and thoroughly cleaned by mechanical means of loose particles, existing joint sealant, laitance, dirt, dust, oil, grease, or other foreign matter.
 - 1. Use mechanical methods, such as grinding or sandblasting, to clean joint surfaces to sound, virgin concrete.
- C. Check preparation of substrate to ensure adhesion of joint sealant.
- D. Correct unsatisfactory conditions in a manner acceptable to Manufacturer and Engineer before installation of joint sealant system.

3.3 INSTALLATION/APPLICATION

- A. Perform Work in accordance with Manufacturer's written instructions and specifications and as indicated on Drawings.
- B. Do not apply joint sealant system until concrete has been air dried at temperatures at or above 40 degrees F. for at least 28 days after curing period specified in Division 03 Section "Cast-In-Place Concrete (Restoration)" or as otherwise approved by Manufacturer.
- C. In areas receiving products specified in Division 09 Section "Protective Coatings", do not install joint sealant system until protective coating has been air dried at temperatures at or above 40 degrees F. for at least 2 days or as otherwise required by the Manufacturer.
- D. Install bond breaker or backer rod as indicated on Drawings.
- E. Prime joints and cracks.
- F. Completely fill joint with sealant, without sagging or smearing onto adjacent surfaces.
- G. Cease installation under adverse weather conditions, or when temperatures are below 40 degrees F or below or above Manufacturer's recommended limitations.
- H. Protect joint sealant as required until sealant is fully cured.

3.4 CLEANING

- A. Remove excess primer, sealant, and masking materials from structure.

- B. Clean materials installed under this Section according to Division 01 Section "Cleaning and Waste Management."

END OF SECTION 07 92 23

SECTION 07 95 16 – EXPANSION JOINT 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 providing and furnishing labor, materials, equipment and supervision to install expansion joint systems.
- B. Basis of Contract Payments:
 - 1. Determine final Contract Price by actual quantities installed at unit prices stated in Contractor's Bid for the following:
 - a. Expansion joint preparation and installation will be paid on a unit price basis. Refer to Bid form.
 - b. Joint widening, filler material or other necessary modifications shall be incidental to system cost.

1.3 SUBMITTALS

- A. Certification: Provide each of the following:
 - 1. Expansion joint system is compatible with products of Divisions 03 and 07 with which it will come in contact.
 - 2. Certification that materials conform to local, state, and federal environmental and worker's safety laws and regulations.
 - 3. Qualifications of Manufacturer's representative.
 - 4. Manufacturer's written certification of expansion joint trial area acceptance.
- B. Manufacturer's Literature: Spec data sheets of each product to be used.
- C. Product Data: Provide the following:
 - 1. Safety Data Sheets of each product, solvent, or related chemicals to be used.
 - 2. Description of expansion joint sealant system along with pertinent test and design data.
 - 3. Preventive maintenance guideline for parking structure expansion joints.
 - 4. For review provide proposed warranty prior to installation.
- D. Shop Drawings: Submit the following for review:
 - 1. Provide joint system general layout, required dimensions (including block out), tolerances for installation, and details indicating end conditions and procedures around columns, up curbs, and unusual conditions.
- E. Samples: For review, provide samples of expansion joint systems upon request.

1.4 QUALITY ASSURANCE

- A. Manufacturer and Installer Requirements:
 - 1. Installer:
 - a. Approved by expansion joint Manufacturer.
 - b. Have a minimum of 5 years' experience in application of one of the reviewed expansion joint systems.
 - c. Have experience for a project size of 600 lineal feet or greater.
 - 2. Manufacturer:
 - a. Provide a qualified representative to assist installer and Engineer as specified herein.
 - b. Representative shall be experienced in placement of the system.
 - c. As a minimum, representative shall be on Site to review the following:
 - 1) Trial area preparation and expansion joint installation.

3. Prior to ordering materials, Installer and Manufacturer shall review size and quality of expansion joint openings.
 - a. Promptly notify Engineer of deficiencies and correct prior to expansion joint installation.
 4. Preconstruction/Pre-installation Meeting:
 - a. Hold to discuss joint detailing, gap widths, application techniques and procedures, phasing, and scheduling.
 - b. Required Attendees: Foreman and lead laborer for installer, Contractor, Manufacturer's representative and Engineer.
 - c. Meeting may be combined with preinstallation meetings for other project elements or following other regular project meetings.
- B. Trial Area Requirements:
1. Prepare a trial expansion joint system installation, including the required preparation, prior to proceeding with production installation.
 2. Single joint, not greater than 60 lineal feet or less than 10 lineal feet.
 3. Engineer, Manufacturer's representative, and installer shall agree that installation is satisfactory prior to proceeding.
 4. Retain accepted trial joint as standard of acceptability and incorporate into Work.
- 1.5 PROJECT CONDITIONS
- A. Confirm that materials used in accordance with this Section conform to local, state, and federal environmental and workers' safety laws and regulations.
- 1.6 DELIVERY, STORAGE AND HANDLING
- A. Ship in weather-proof enclosures, in weather-proof containers or in weatherproof packaging. Deliver materials in original, unbroken, brand marked containers or wrapping as applicable. Include the following:
1. Name of product.
 2. Name of Manufacturer.
 3. Date of Manufacture.
 4. Lot or batch number.
 5. UL labels.
- 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.
- 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.
- D. Do not allow weight of stored material placed on a slab area to exceed design loads.
- 1.7 WARRANTY
- A. Requirements:
1. Provide a warranty from installer and Manufacturer that expansion joint system will be free of leaks and defects related to design, workmanship, or material deficiency for duration of warranty.
 2. Installer and Manufacturer will warrant and provide at no charge to Owner materials and labor needed to properly repair or replace product and replace parking stripes within duration of warranty.
 3. In event of either party's non-performance, full burden and responsibility for warranty repair shall fall upon remaining party.
 4. Vandalism, abrasive maintenance equipment, and construction traffic are not normal traffic use and are exempt from warranty.

- B. Warranty Duration:
 - 1. Bid price shall include a 5-year warranty commencing with date of Project acceptance in accordance with the General Conditions, and Division 01 Section "Closeout Procedures".
 - 2. Although completed areas of facility may be opened to use, commencement of warranty period will not occur prior to acceptance of entire Project.
 - 3. A single warranty commencement date will apply to all waterproofing.
 - 4. Include a transfer clause that allows warranty to be transferred to a new Owner upon sale of property within warranty period.

PART 2 - PRODUCTS

2.1 EXPANSION JOINTS

- A. Systems and glands to accept pedestrian traffic are to comply with Americans with Disabilities Act (ADA) guidelines.
- B. For each type of expansion joint, use the same Manufacturer's system throughout.
- C. Design of Expansion Joint System: For a maximum ambient temperature range of -30 degrees F to +120 degrees F.

2.2 EXPANSION JOINT SYSTEM - PREFORMED EXPANDING FOAM

- A. Expanding Foam Sealant: Laminations of acrylic impregnated expanding foam sealant and closed cell polyurethane foam with one sided mounting adhesive.
- B. Exterior Coating: If applicable, factory applied and cured silicone sealant at a width in excess of maximum anticipated joint size.
- C. Joint System: Supplied precompressed to less than joint size at mean temperature.
- D. Color: Selected from color chart supplied by Manufacturer.
- E. Depth of Joint Sealant: As recommended by Manufacturer.
- F. Reviewed Preformed Expanding Foam Expansion Joint Systems with Factored Applied Silicone Sealant ($\pm 25\%$ movement) Above Grade Applications:
 - 1. Colorseal, Emseal Joint Systems, LTD., Westborough, MA.
 - 2. Or approved equivalent.

PART 3 - EXECUTION

3.1 INSPECTION AND COORDINATION

- A. Inspect surfaces to receive Work and report immediately in writing to Engineer as required in General Conditions deficiencies in surface which render it unsuitable for proper execution of this Work.
 - 1. Do not proceed with Work until unsatisfactory conditions have been corrected in an acceptable manner.
 - 2. Commencement of Work implies acceptance of related Work.
- B. Coordinate and verify that related Work meets following requirements:
 - 1. Concrete surfaces are finished, cleaned, and prepared, as specified by Manufacturer.
 - 2. Curing compounds used are compatible or have been removed.
 - 3. Concrete surfaces have completed proper curing period.
 - 4. Systems are compatible with each other.
 - 5. Protective coatings do not extend into the joint opening.

- C. Take necessary precautions to protect building occupants during installation.
 - 1. Use protective equipment.
 - 2. Well ventilate area to outside.
- D. Prior to ordering material, remove existing joint system to measure size of gap and review this information with Manufacturer and Engineer to determine the proper gland size.
 - 1. Temporarily cover joints if located in pedestrian area until new system is installed.

3.2 PREPARATION

- A. Provide a properly formed, solid, straight, parallel concrete blockout in accordance with Manufacturer's requirements and as indicated on Drawings.
- B. Grind joint edges smooth and straight prior to installation.
- C. Abrasive blast expansion joint blockout to receive bonded nosing material.
 - 1. Remove contaminates, including laitance.
 - 2. Expose fine aggregate, however, do not expose coarse aggregate.
- D. Thoroughly dry and clean surfaces of loose particles, laitance, dirt, dust, oil, grease, or other foreign matter.
- E. Expansion joint blockouts requiring widening or other necessary modifications shall be incidental to system cost.
- F. Actual field conditions of existing expansion joint blockouts may be deeper and wider than proposed new expansion joint system as indicated on the Drawings.
 - 1. Block out size may not be reduced by techniques such as patching and shimming.
 - 2. When existing block out is larger, use additional nosing material.
 - 3. When block out size is smaller, make it larger by saw cutting.

3.3 INSTALLATION/APPLICATION

- A. Install Work in accordance with Manufacturer's written instructions, as indicated herein and as indicated on the Drawings.
- B. Cease installation of expansion joints under adverse weather conditions, or when temperatures are below or above Manufacturer's recommended limitations for installation.
- C. Mask adjacent concrete and gland surfaces to provide neat, workmanlike appearance.
- D. Unpack membrane seal or gland and lay in a relaxed position to relieve temporary coiling from shipment prior to installation.
- E. Ambient Temperatures: Not lower than 40 degrees F during installation.
- F. Terminations of Joints: Provide a minimum upturn of 6 inches.

3.4 CLEANING

- A. Remove excess primer, nosing material, and masking materials, and dispose of in a proper manner.
- B. Clean materials installed under this Section according to Division 01 Section "Cleaning and Waste Management."

END OF SECTION 07 95 16

SECTION 09 88 00 – PROTECTIVE COATINGS

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 providing and furnishing labor, materials, equipment and supervision for the coating of substrates with a non-vapor barrier, protective waterproofing, polymer-modified, Portland cement slurry.
- B. Basis of Contract Payments:
 - 1. Final Contract Price will be determined by actual quantities installed at unit prices stated in Contractor's Bid for the following:
 - a. Protective coating preparation and application will be paid on a unit price basis. Refer to Bid form.
 - b. Detailing and additional coats over conditions such as cracks, construction joints, and concrete repair areas are incidental to protective coating cost.
 - c. Where indicated in details, include cove sealants and joint sealants in price for protective coatings.

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. System Description:
 - a. Submit complete description of proposed protective coating system including materials, surface preparation, joint and crack treatments, terminations, and cure times.
 - 2. Product Data: For each type of product, including installation instructions:
 - a. Protective coating system.
 - b. Substrate repair material.
 - 3. Shop Drawings: For protective coatings:
 - a. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions.
 - b. Include proposed plan for grid layout to install each coat.
 - c. Include quantities of materials, square footages, and yield calculations.
 - d. Include proposed location of mockup area.
 - 4. Sample Warranty: Submit sample warranty for review prior to application.
 - 5. Samples for Verification: For each type of exposed finish, prepared on rigid backing.
 - a. Provide stepped Samples on backing to illustrate buildup of protective coatings.
 - b. Samples shall be representative of color, thickness, and surface texture.
- B. Informational Submittals:
 - 1. Qualification Data:
 - a. For installer including projects, size, location, owner, and contact, engineer/architect and contact for projects that protective coating (or similar coating system) has been applied.
 - b. Certification that Manufacturer has approved installer.
 - c. For Manufacturer's representative.
 - 2. Certificates:
 - a. Certification of Manufacturer's approval of surface preparation.
 - b. Certification of Manufacturer's approval of trial area application.
 - c. Certification of Manufacturer's approval of coating application for first production phase.
 - d. Written certification that system applied as a recoat system is compatible with existing system.
 - 3. Upon request, copies of purchase order and invoices indicating quantities and dates of material purchased.

1.4 QUALITY ASSURANCE

- A. Manufacturer's/Installer's Requirements:
 - 1. Protective coating Installer: Approved by protective coating Manufacturer.
 - 2. Have a minimum of 5 years' experience in application of the protective coating (or similar systems) and have experience with 5 concrete repair and waterproofing projects in size of 50,000 square feet or greater.
 - 3. Review slope of slabs and condition of surfaces prior to bidding.
 - 4. Manufacturer shall make available a qualified representative to assist as specified herein.
 - a. Representative shall be experienced in placement of protective coating systems.
 - b. As a minimum, representative shall be on Site to review following procedures:
 - 1) Surface preparation and protective coating installation in trial area.
 - 2) Installation of protective coating during first phase.
 - 5. Preconstruction/Preapplication Meeting: Discuss detailing, surface preparation, application techniques and procedures, phasing, and scheduling.
 - a. Required Attendees: Foreman and lead laborer for Installer, Contractor, Manufacturer's representative and Engineer.
- B. Trial Area Requirements:
 - 1. Prepare a 300 square foot trial area incorporating the required preparation.
 - a. Engineer, Manufacturer's representative and installer shall agree that surface preparation in trial area is satisfactory before preparation is continued.
 - 2. Install protective coating in 300 square foot trial area to illustrate method of application for review.
 - a. At same time as trial area, provide a test Sample on a 4-foot x 4-foot plywood sheet, which will be used to compare protective coating finish in other areas.
 - b. Engineer, Manufacturer's representative, and installer shall agree that installation in trial area is satisfactory before further installation of protective coating.

1.5 PROJECT CONDITIONS

- A. Protective Coating Materials: Confirm that protective coating materials used are in accordance with this Section and conform to local, state, and federal environmental and workers' safety laws and regulations.
 - 1. VOC content of materials shall not exceed limits per Environmental Protection Agency Natural Volatile Organic Compound Emission Standards for Architectural Coatings (40CFR59).
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.6 DELIVERY, STORAGE AND HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer. 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.
- D. Reject damaged, deteriorated or contaminated material and immediately remove from the Site. Replace rejected materials with new materials at no additional cost to Owner.
- E. Do not permit the weight of stored material placed on a slab area to exceed 20 pounds per square foot or 1,200 pounds over 20 square inches.

1.7 WARRANTY

A. Requirements:

1. Provide to Owner a warranty by installer and Manufacturer that protective coating system will be free of defects, water penetration, and chemical damage related to system design, workmanship, or material deficiency, consisting of, but not limited to:
 - a. Surface crazing of other weathering deficiency (including ultraviolet light exposure).
 - b. Debonding from substrate or delaminating between layers.
 - c. Defective installation.
 - d. Debonding or damage of repair material used for filling in pitting, bug holes, popouts, and shallow scaling with concrete or protective coating material.
2. Installer and Manufacturer:
 - a. Warrant and provide at no charge to Owner materials and labor needed to properly repair or replace product within duration of Warranty.
 - b. In event of either party's non-performance, full burden and responsibility for any Warranty repair shall fall upon remaining party.
3. Vandalism, abrasive maintenance equipment, and construction traffic are not normal traffic use and are exempt from warranty.
4. Normal traffic is considered to include Plant maintenance operations.
5. Recoat systems are those applied over existing systems.
 - a. Installer shall provide system suitable for such application.
 - b. Warranty shall cover recoat system.

B. Warranty Duration:

1. Bid price shall include a 5-year warranty commencing with date of Project acceptance in accordance General Conditions.
2. Although completed areas of facility may be reopened to use, commencement of warranty period will not occur prior to acceptance of entire Project.
3. A single warranty commencement date will apply to all waterproofing.
4. Warranty shall include a transfer clause that allows warranty to be transferred to a new owner upon sale of property within warranty period.

PART 2 - PRODUCTS

2.1 PROTECTIVE COATING

- A. Polymer-modified Portland cement coating consisting of two components. Component A shall be a liquid polymer emulsion of an acrylic co-polymer base and additives. Component B shall be a blend of selected Portland cements, specially graded aggregates, and admixtures to control setting time and workability.
- B. The material shall be non-combustible, either before or after cure.
- C. The material shall protect against water penetration.
- D. The material shall not produce a vapor barrier.
- E. The material shall be thermally compatible with Portland cement mortar and concrete.
- F. Color: Manufacturer's standard gray.
- G. Provide material to fill in pitting, bug holes, popouts, and shallow scaling in accordance with Manufacturer's written recommendations.
- H. Use same Manufacturer's protective coating system throughout.

2.2 PROTECTIVE COATING SYSTEM

- A. Reviewed Protective Coating Systems:
 - 1. SikaTop Seal 107, Sika Corporation, Lyndhurst, NJ.
 - 2. Or approved equivalent

PART 3 - EXECUTION

3.1 INSPECTION AND COORDINATION

- A. Inspect surfaces to receive Work and report immediately in writing to Engineer as required in General Conditions deficiencies in surface which render it unsuitable for proper execution of this Work.
 - 1. Do not proceed with Work until unsatisfactory conditions have been corrected in an acceptable manner as reviewed by Engineer.
- B. Coordinate and verify that related Work meets following requirements:
 - 1. Concrete surfaces are finished, cleaned and prepared, and have completed required curing period.
 - 2. Previous surface treatments have been removed or are compatible with the systems to be installed.
 - 3. Systems selected for use are compatible with each other.
 - 4. Concrete repairs are completed.

3.2 PREPARATION

- A. Remove biological material, oil, grease spots, and contaminants in accordance with Manufacturer's recommendations. Pressure wash with water the roof surface and adjacent curbs and walls with minimum of 4,000-PSI.
- B. Verify that supplemental drains have been installed, concrete repairs have been completed (and cured), areas of debonded existing topping have been selectively removed, and full-depth cracks have been routed and patched (and cured).
- C. Mechanically prepare surfaces that are to be protective coated in accordance with Manufacturer's recommendations. At a minimum, provide an ICRI CSP-3 (open-textured, sandpaper like texture) or rougher.
- D. Repair or replace materials damaged by surface preparation operations.
- E. Air blow surfaces with sufficient pressure to remove excess dirt, dust, and debris, and to ensure that concrete is clean prior to application of protective coating.
- F. Apply water to achieve a saturated surface dry (SSD) surface free of standing water.

3.3 INSTALLATION/APPLICATION

- A. Complete Work in accordance with Manufacturer's written instructions and specifications and as indicated herein.
- B. Do not apply protective coating materials until concrete has been air dried at temperatures at above 40 degrees F for at least 28 days after curing period or as otherwise approved by Manufacturer.
- C. Do not apply protective coating material until concrete and air temperature is at or above 45 degrees F.
 - 1. Provide appropriate enclosures and necessary heating for application.
 - 2. Maintain air temperatures directly below and above the slab being coated at a minimum of 45 degrees F up to 48 hours prior to coating and at 45 degrees F for a minimum of 72 hours after coating, or as required for full curing of material.
 - 3. Provide high/low thermometers within Work area.
 - a. As a minimum, provide two thermometers directly below slab and two directly above slab being coated.

- D. Maintain straight protective coating edges at terminations.
- E. Divide surfaces to be protective coated into areas in accordance with the Manufacturer's recommended yield for the specified thickness and for specific container size of material.
 - 1. Mark area is to be divided by keel marks, or another Engineer reviewed method.
- F. Extend protective coating up vertical surfaces and on to top of walls and curbs as indicated on Drawings.
- G. If rain is predicted or occurs within 2 days of application, protect surface to prevent streaking.
- H. Complete Work under this Section before installing joint and cove sealants.

3.4 DAMAGE AND REPAIRS

- A. Damages to protective coating prior to occupancy are to be repaired by installer.

3.5 CLEANING

- A. Remove excess protective coating and masking materials from structure.
- B. Clean materials installed under this Section according to Division 01 Section "Cleaning and Waste Management."

END OF SECTION 09 88 00

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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

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

[illegible]

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.	