

PROJECT MANUAL

Battle Creek Executive Airport Air Traffic Control Tower Rehabilitation

Design

BIL Project #: 3-26-0139-054-2024
Mead & Hunt Project #: 0228800-240589.01

Battle Creek, MI

Prepared for:
City of Battle Creek, Michigan
Battle Creek Executive Airport

Mead&Hunt

2440 Deming Way
Middleton, WI 53562

Phone: 608-273-6380
www.meadhunt.com

Issued for Bid
May 31, 2024

SECTION 000107 - CERTIFICATIONS AND SEALS

**Certifications and Seals
For
Battle Creek Executive Airport
Air Traffic Control Tower Rehabilitation Project**

Mead & Hunt, Inc.
0228800-240589.01

Prepared for:

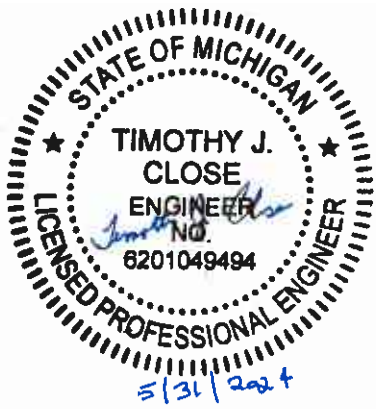
City of Battle Creek
Battle Creek Executive Airport
Battle Creek, Michigan

Prepared by:



May 31, 2024

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PROJECT MANAGER Mead & Hunt, Inc. 2440 Deming Way Middleton, WI 53562	
STRUCTURAL ENGINEER Specialty Consulting, Inc. 2942 West Van Buren Street Chicago, IL 60612	
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END OF SECTION 000107

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SECTION 001113

**ADVERTISEMENT FOR BIDS
Battle Creek Executive Airport
Battle Creek, Michigan**

NOTICE TO BIDDERS

The City of Battle Creek, Michigan will receive electronic bids for an Air traffic Control Tower Rehabilitation project until 2:00 PM Eastern / 1:00 PM. Central, on Friday, June 21, 2024. Bids will be thereafter publicly opened and read aloud via Zoom meeting.

All contractors and subcontractors must be licensed within the State of Michigan and shall have experience in this type of building construction. Qualified bidders may submit bids for project as described in this Advertisement for Bids and in accordance with the Instructions to Bidders.

A Disadvantaged Business Enterprise (DBE) participation goal of 3.0% is required for this project. Contractor shall be required to maintain insurance as specified in the Special Provisions.

SCOPE OF PROJECT

The project consists of all work associated with an Air Traffic Control Tower (ATCT) Rehabilitation project at the Battle Creek Executive Airport (BTL). The Work consists of but is not limited to Crack Repair of the existing precast concrete shaft and removal and replacement of certain ATCT electronic equipment located in the ATCT CAB and ATCT Equipment Room.

Questions regarding the project shall be directed to: Tim Close, PE, SE, Project Manager, Mead & Hunt, Inc., 2440 Deming Way, Middleton, WI 53562, (O) 608-443-0503, (C) 608-712-2499, Tim.Close@meadhunt.com.

BID DOCUMENTS DOWNLOAD

For Bid Documents download, Bidders visit <http://battlecreekmi.gov/230/Bid-Proposal-Solicitations> and click on Bid & Proposal Solicitations. Bidder will be redirected the secure VendorRegistry website to register as a vendor (required) and obtain the Bid Documents.

Bidders should Email purchasing@battlecreekmi.gov if the above link doesn't work.

BID SUBMITTAL UPLOAD

Bids must be submitted electronically as one (1) PDF. DO NOT EMAIL BIDS. Bids shall be submittal at: <http://battlecreekmi.gov/230/Bid-Proposal-Solicitations>. Follow the link for Bids and Proposals Solicitations, which will take you to the VendorRegistry page. Click on the notice for this project, then click, "Submit Bid." You may also email, purchasing@battlecreekmi.gov for the links.

You must be a registered vendor (quick and no charge) to submit a bid. You may withdraw your bid at any time before the due date/time. To withdraw your electronic bid, click "Submit Bid" again and you will see the link to withdraw. All bids will be publicly opened and read aloud via Zoom meeting; details listed in IFB in VendorRegistry. Upload your bid and bonds TOGETHER as ONE PDF. Multiple uploads are NOT ALLOWED.

BID SECURITY

Bid security shall be submitted with each bid in the amount of 5 percent of the bid amount. No bids may be withdrawn for a period of one hundred fifty (150) calendar days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

BONDING REQUIREMENTS

Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond as well as a separate Labor and Material Payment Bond, each in the amount of 100 percent of the contract price, will be required to complete contract execution.

PREBID MEETING

A pre-bid meeting will be held on Tuesday, June 11, 2024, at 10:00 AM Eastern / 9:00 AM Central. The pre-bid meeting will be held on-line via Microsoft Teams with computer screen share capability. Contractors wishing to attend this virtual pre-bid meeting must send a Request for BTL-ATCT Rehab Pre-bid Invitation (Request) via email to Hayley Skladanek at Hayley.Skladanek@meadhunt.com.

The Request must be received by Monday, June 10, 2024, at 3:00 PM Eastern / 2:00 PM Central. The Request must contain the name, firm, phone number, and email of those logging on and/or calling in. The Invitation to the BTL-ATCT Rehab Pre-Bid meeting will be emailed to all requesters starting on Monday June 10, 2024, at 4:00 PM Eastern / 3:00 PM Central.

Contactors may attend the pre-bid meeting locally at the Battle Creek Executive Airport, 15551 South Airport Road, Battle Creek, MI 49015.

All questions arising from the pre-bid meeting shall be directed via email to Tim Close, PE, SE, Project Manager, Mead & Hunt, Inc., 2440 Deming Way, Middleton, WI 53562, (O) 608-443-0503, Tim.Close@meadhunt.com.

TIME OF COMPLETION AND LIQUIDATED DAMAGES

The project shall be Substantial Complete within two hundred and seventy (270) calendar days from the effective date of Notice-to-Proceed. The project shall be Final Complete within three hundred (300) calendar days from the effective date of the Notice-to Proceed.

Liquidated damages will be assessed at the rate of \$2,500 per calendar day.

AIRPORT IMPROVEMENT PROGRAM CONTRACT PROVISIONS

The proposed project is part of an Airport Improvement Program (AIP) undertaken by the Battle Creek Executive Airport in accordance with terms and conditions of a grant agreement between the City of Battle Creek, Michigan, and the Federal Aviation Administration, and under provisions of the Airport and Airway Improvement Act, as amended.

The Contractor must incorporate the following Contract Provisions for AIP projects; Buy American Preference, Foreign Trade Restriction, Davis Bacon, Affirmative Action, Government Wide Debarment and Suspension, Government Requirements for Drug-free Workplace. Other provisions will be listed in the Contract Documents. Note that the Buy American Certification for Buildings must be submitted with the bid.

This project is being funded in part with Federal Aviation Administration and Michigan Department of Transportation funding. All state and federal guidelines must be followed.

WAGE REQUIREMENTS

The Contractor will be required to comply with the wage and labor requirements and pay minimum wages in accordance with the schedule of wage rates established by the Department of Labor per General Decision Number MI20240079, 04/19/2024.

CONTRACT AWARD

All proposals submitted in accordance with the instructions presented herein will be subject to evaluation. Bids may be held for a period not to exceed ninety (90) calendar days from the date of the bid opening for the purpose of conducting the bid evaluation. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

Prospective Bidders are hereby advised that award of contract is contingent upon the Owner receiving Federal funding assistance under the Airport Improvement Program as well as bidders understanding and acceptance of all stipulations and requirements herein.

NOTIFICATION

This Advertisement for Bids document is issued by Phil Kroll, Aviation Director, Battle Creek Executive Airport.

END OF SECTION 001113

SECTION 002113

INSTRUCTION TO BIDDERS

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AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:

(Name, location, and detailed description)

Air Traffic Control Tower Rehabilitation Project
Battle Creek Executive Airport
15551 South Airport Road
Battle Creek, MI 49015

THE OWNER:

(Name, legal status, address, and other information)

City of Battle Creek, Michigan
10 North Division Street
Battle Creek, MI 49014

THE PROJECT MANAGER:

(Name, legal status, address, and other information)

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562

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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Project Manager, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete electronic Bidding Documents, as indicated in the Advertisement for Bids, for the deposit sum, if any, stated therein.

(Paragraphs deleted)

§ 3.1.2 Any required deposit will not be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Project Manager assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing via email and shall be received by the Project Manager at least seven days prior to the date for receipt of Bids.
(Paragraphs deleted)

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Project Manager at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on CSI Form 1.5C.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Project Manager's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Project Manager approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be made available to Bidders known by the issuing office to have received complete Bidding Documents.

(Paragraphs deleted)

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than two days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

(Insert the form and amount of bid security.)

Each bid proposal must include a bid guaranty in the amount of five percent (5%) of the total amount of the bid. The bid guaranty may be by bid bond or certified check made payable to the Owner. The bid bond shall be from a responsible surety qualified to conduct business within the State the project is located. If Bidder uses a certified check, the certified check must be issued from a responsible and solvent bank or trust company.

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning 150 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid

(Paragraphs deleted)

electronically as indicated in the Advertisement for Bids.

§ 4.3.2 Paper copies of the Bid are not allowed.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Project Manager of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Project Manager, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be
(Paragraphs deleted)
returned.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Project Manager, upon request and within the timeframe specified by the Project Manager, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Not Used

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Project Manager:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Project Manager and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Project Manager will notify the Bidder if either the Owner or Project Manager, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Project Manager has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Project Manager have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Project Manager.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 The Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 The cost of the bonds shall be included in the Bid.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(Paragraphs deleted)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 NOT USED

ARTICLE 9 LIQUIDATED DAMAGES

§ 9.1 Liquidated damages shall be in the amount of \$2,500 per calendar day. Further provisions are set forth in the Bidding Documents.

ARTICLE 10 RETAINAGE

§ 10.1 Retainage shall be in the amount of five (5.0%) of the amount earned for Work up to 100% of the Contract Sum.

(Table deleted)(Paragraphs deleted)(Paragraphs deleted)

END OF SECTION 002113

SECTION 002513

PREBID MEETINGS

1.01 PREBID MEETING

- A. Project Manager will conduct a Prebid meeting as indicated below:
 - 1. A pre-bid meeting will be held on Tuesday, June 11, 2024, at 10:00 AM Eastern / 9:00 AM Central. The pre-bid meeting will be held online via Microsoft Teams.
 - 2. Contactors may attend the pre-bid meeting locally at the Battle Creek Executive Airport, 1551 South Airport Road, Battle Creek, MI 49015.
- B. Attendance:
 - 1. Prime Bidders: Attendance at Prebid meeting is recommended.
 - 2. Subcontractors: Attendance at Prebid meeting is recommended.
- C. Bidder Questions
 - 1. Submit written questions, via email, to be addressed at Prebid meeting minimum of two (2) business days prior to meeting.
 - 2. All questions arising from the pre-bid meeting shall be directed via email to Tim Close, PE, SE, Project Manager, Mead & Hunt, Inc., 2440 Deming Way, Middleton, WI 53562, (O) 608-443-0503, (C) 608-712-2499, Tim.Close@meadhunt.com.
- D. Agenda: Prebid meeting agenda will include review of topics that may affect proper preparation and submittal of bids, including the following:
 - 1. Procurement and Contracting Requirements:
 - a. Advertisement for Bids.
 - b. Instructions to Bidders.
 - c. Bidder Qualifications.
 - d. Bonding.
 - e. Insurance.
 - f. Bid Security.
 - g. Bid Form and Attachments.
 - h. Bid Submittal Requirements.
 - i. Bid Submittal Checklist.
 - j. Notice of Award.

2. Communication during Bidding Period:
 - a. Obtaining documents.
 - b. Access to Project Web site.
 - c. Bidder's Requests for Information.
 - d. Bidder's Substitution Request/Prior Approval Request.
 - e. Addenda.
 3. Contracting Requirements:
 - a. Agreement.
 - b. The General Conditions.
 - c. The Supplementary Conditions.
 - d. Other Owner requirements.
 4. Construction Documents:
 - a. Scopes of Work.
 - b. Temporary Facilities.
 - c. Use of Site.
 - d. Work Restrictions.
 - e. Alternates, Allowances, and Unit Prices.
 - f. Substitutions following award.
 5. Separate Contracts:
 - a. Work of Other Contracts.
 6. Schedule:
 - a. Project Schedule.
 - b. Contract Time.
 - c. Liquidated Damages.
 7. Site/facility visit or walkthrough.
 8. Post-Meeting Addendum.
- E. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes to attendees and others known by the issuing office to have received a complete set of Procurement and Contracting Documents. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents. Modifications to the Procurement and Contracting Documents are issued by written Addendum only.
1. Sign-in Sheet: Minutes will include list of meeting attendees.
 2. List of Plan-holders: Minutes will include list of plan-holders.

END OF SECTION 0002513

SECTION 002600

PROCUREMENT SUBSTITUTION PROCEDURES

1.01 DEFINITIONS

- A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.
- B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 012500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

1.02 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.03 PROCUREMENT SUBSTITUTIONS

- A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.
- B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Program Manager; otherwise, requests will be returned without action:
 - 1. Extensive revisions to the Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
 - 3. The request is fully documented and properly submitted.

1.04 SUBMITTALS

- A. Procurement Substitution Request: Submit to Program Manager. Procurement Substitution Request must be made in writing by prime contract Bidder only in compliance with the following requirements:

1. Requests for substitution of materials and equipment will be considered if received no later than 10 days prior to date of bid opening.
 2. Submittal Format: Submit one electronic copy of each written Procurement Substitution Request, using CSI Substitution Request Form 1.5C.
- B. Program Manager's Action:
1. Program Manager may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Program Manager will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.
- C. Program Manager's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF SECTION 002600

SECTION 004113

BID FORM

1.01 BID INFORMATION

- A. This Bid is submitted to:
 - 1. Chris Huff
 - 2. Purchasing Agent
 - 3. City of Battle Creek, Michigan
 - 4. 10 North Division Street
 - 5. Battle Creek, MI 49014

- B. Project:
 - 1. Air Traffic Control Tower Rehabilitation Project
 - 2. Battle Creek Executive Airport
 - 3. 15551 South Airport Road
 - 4. Battle Creek, MI 49014

- C. Project Location:
 - 1. Battle Creek Executive Airport
 - 2. 15551 South Airport Road
 - 3. Battle Creek, MI 49014

- D. Owner:
 - 1. City of Battle Creek, Michigan
 - 2. 10 North Division Street
 - 3. Battle Creek, MI 49014

- E. Project Manager:
 - 1. Mead & Hunt, Inc.
 - 2. 2440 Deming Way
 - 3. Middleton, WI 53562

1.02 BIDDER'S ACKNOWLEDGEMENTS

- A. The undersigned Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. _____, dated _____.
 2. Addendum No. _____, dated _____.
 3. Addendum No. _____, dated _____.
 4. Addendum No. _____, dated _____.
- B. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
- C. Bidder accepts all the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for ninety (90) days after the Bid opening, or for such longer period that Bidder may agree to in writing upon request of Owner.

1.03 NON-COLLUSION

- A. By signing the Offer to Contract, the bidder, by its officers and authorized agents or representatives present at the time of filing this bid, being duly sworn on their oaths say, that neither they nor any of them have in any way, directly or indirectly entered into any arrangement or agreement with any other bidder or with any public officer of such City of Battle Creek, Michigan, whereby such affidavit or affiants or either of them has paid or is to pay to such other bidder or public officer any sum of money, or has given or is to give to such other bidder or public officer anything of value whatever, or such affidavit or affiants or either of them has not directly or indirectly, entered into any arrangement or agreement with any other bidder or bidders, which tends to or does lessen or destroy free competition in the letting of the contract sought for by the attached bids, that no inducement of any form or character other than that which appears on the face of the bid will be suggested, offered, paid or delivered to any person whomsoever to influence the acceptance of the bid or awarding of the contract, nor has this bidder any agreement or understanding of any kind whatsoever, with any person whomsoever to pay, deliver to, or share with any other person in any way or manner, any of the proceeds of the contract sought by this bid.

1.04 BIDDER'S REPRESENTATIONS

- A. In submitting this Bid, Bidder represents that:
1. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 2. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

3. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site.
4. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
5. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
6. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
7. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
8. The Bidding Documents are sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
9. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

1.05 BIDDER'S CERTIFICATIONS

A. In submitting this bid, Bidder certifies that:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract. For the purposes of this paragraph:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

- b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
- c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
- d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

1.06 TIME OF COMPLETION

- A. Estimate of Notice to Proceed date is November 1, 2024.
- B. Bidder agrees that all Work will be Substantial Complete by August 1, 2025
- C. Bidder agrees that all work will Final Complete by September 1, 2025.
- D. Substantial and Final Completion dates allow for exterior Work to be completed outside of winter conditions. Therefore, should the Contractor choose to perform exterior Work during the winter, no additional charges for winter conditions construction will be allowed.
- E. Bidder accepts the provisions of the Agreement as to liquidated damages in the amount of \$2,500 per calendar day in the event of failure to complete the Work within the Contract Times.

1.07 ATTACHMENTS TO THIS BID

- A. The following documents are attached to and made a condition of this Bid:
 - 1. Bid Bond
 - 2. Allocated Scheduled Value Form
 - 3. Warranty Form
 - 4. Buy American Certification
 - 5. Buy American Waiver
 - 6. DBE Utilization Statement

1.08 CONTRACTOR'S LICENSE

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in the State of Michigan, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.09 SUBMISSION OF BID

- A. Respectfully submitted this ____ day of _____, 2024.
- B. Submitted By: _____
- C. (Name of bidding firm or corporation)
- D. Authorized Signature: _____
- E. (Handwritten signature).
- F. Signed By: _____
- G. (Type or print name)
- H. Title: _____
- I. (Owner/Partner/President/Vice President)
- J. Street Address: _____
- K. City, State, Zip: _____
- L. Phone: _____
- M. License No.: _____

1.10 BASIS OF BID

- A. General: Bidder shall complete the Work in accordance with the Contract Documents for the prices(s) provided in the Schedule of Prices.
- B. Bid Items Representations: Bid Items represent all Work performed in accordance with the Contract Documents for each of the individual items indicated in the Schedule of Prices for Bid Items. The Total of all individual Bid Items is the Total Bid Amount.
- C. Base Bid Item 101 (BBI-101), Air Traffic Control Tower Precast Concrete Shaft Repair: BBI-101 includes but is not limited to the labor and materials related to the following items.
 - 1. The securing of all necessary permits to complete the Work as described in these Contract Documents. All necessary permit costs shall be included in this BBI-101.
 - 2. All Mobilization costs related to BBI-101 shall be included in this BBI-101.
 - 3. All Allocated Scheduled Value costs shall be included in this BBI-101.

4. Scaffolding and supplemental anchors.
 5. Precast concrete wall panel repair.
 6. Joint and joint sealant replacement.
 7. Epoxy crack injection
- D. Base Bid Item 102 (BBI-102), Air Traffic Control Tower Equipment Replacement: BBI-102 includes but is not limited to the labor and materials related to removal and replacement of the following items.
1. CM200/CM300 Series Mobile 2-way Radios
 2. Voice Communications Switching System
 3. DV Recorder
 4. Back-up Weather Sensor Translators
 5. Light Guns
- E. Additive Bid Item 201 (ABI -201), Waterproofing Protection. ABI-201 includes but is not limited to the labor and materials related to the following item.
1. Applying Penetrating Sealer to the precast concrete shaft of the Air Traffic Control Tower.
 2. This ABI 201 will only be awarded should funds be available.
- F. Additive Bid Item 202 (ABI-202), Base Building and Sidewalk. ABI-202 includes but is not limited to the labor and materials related to the following items.
1. Concrete Sidewalk Repair.
 2. Cove Sealant Replacement.
 3. Wall Expansion Joint.
 4. Reseal Reglet Flashing.
 5. This ABI-202 will only be awarded should funds be available.
- G. Basis of Award:
1. If awarded, the CONTRACT shall be awarded to serve the best interest of the Owner depending upon the availability of funds.
 2. If funds are available, the CONTRACT shall be awarded based upon the lowest responsive Bid based on the Total Bid Amount.
 3. If funds are not available to cover the Total Bid Amount, the Contract shall be awarded based on the lowest responsive Bid determined by the addition of Bid Items in the following order until the available funds are reached; BBI-101, BBI-102, BBI-201, BBI-202.

1.11 SCHEDULE OF PRICES

SCHEDULE OF PRICES BID ITEMS						
ITEM NUMBER	ITEM DESCRIPTION	PAY UNIT	QUANTITY	AMOUNT		CENTS
				DOLLARS		
BASE BID 101 (BBI-101)	Air Traffic Control Tower Precast Concrete Shaft Repair	Lump Sum	1			
BASE BID 102 (BBI-102)	Air Traffic Control Tower Equipment Replacement	Lump Sum	1			
TOTAL BASE BID AMOUNT						
ADDITIVE BID 201 (ABI-201)	Waterproofing Protection	Lump Sum	1			
ADDITIVE BID 202 (ABI-202)	Base Buidling and Sidewalk	Lump Sum	1			
TOTAL ADDITIVE BID AMOUNT						
TOTAL BID AMOUNT						

END OF SECTION 004113

SECTION 004313

BID SECURITY FORMS

1.01 BID FORM SUPPLEMENT

- A. A completed bid bond form is required to be attached to the Bid Form.

1.02 BID BOND FORM

- A. AIA Document A310-2010 "Bid Bond" is the recommended form for a bid bond. A bid bond acceptable to Owner, or other bid security as described in the Instructions to Bidders, is required to be attached to the Bid Form as a supplement.
- B. Copies of AIA standard forms may be obtained from The American Institute of Architects; <https://www.aiacontracts.org/>; email: docspurchases@aia.org; (800) 942-773

END OF SECTION 004313

SECTION 004321

ALLOCATED SCHEDULED VALUE FORM

1.01 BID INFORMATION

- A. Bidder: _____
- B. Project Name: Air Traffic Control Tower Rehabilitation Project
- C. Project Location: Battle Creek Executive Airport
- D. Owner: City of Battle Creek, Michigan
- E. Owner Project Number: TBD
- F. Project Manager: Mead & Hunt, Inc.
- G. Project Manager Project Number: 0228800-240589.01

1.02 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.
- B. The undersigned Bidder certifies that Bid submission to which this Bid Supplement is attached includes those Allocated Scheduled Values described in the Contract Documents and scheduled in specification Section 012100 "Allocated Scheduled Values." And that those Allocated Scheduled Values are included within the sum total of Bid Item, BBI-101, Air Traffic Control Tower Precast Concrete Shaft Repair.

1.03 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this ____ day of _____, 2024.
- B. Submitted By: _____
(Insert name of bidding firm or corporation)
- C. Authorized Signature: _____
(Handwritten signature)
- D. Signed By: _____
(Owner/Partner/President/Vice President)

E. Title: _____
(Owner/Partner/President/Vice President)

END OF SECTION 004321

SECTION 004322

WARRANTY FORM

1.01 BID INFORMATION

- A. Bidder: _____
- B. Project Name: Air Traffic Control Tower Rehabilitation Project
- C. Project Location: Battle Creek Executive Airport
- D. Owner: City of Battle Creek, Michigan
- E. Owner Project Number: TBD
- F. Project Manager: Mead & Hunt, Inc.
- G. Project Manager Project Number: 0228800-240589.01

1.02 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form
- B. The undersigned Bidder certifies that Bid Submission to which this Bid Supplement is attached includes those warranties described in the Contract Documents.

1.03 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this ____ day of _____, 2024.
- B. Submitted By: _____
(Insert name of bidding firm or corporation)
- C. Authorized Signature: _____
(Handwritten signature)
- D. Signed By: _____
(Owner/Partner/President/Vice President)
- E. Title: _____
(Owner/Partner/President/Vice President)

END OF SECTION 004322

SECTION 004323

PERMITS FORM

1.01 BID INFORMATION

- A. Bidder: _____
- B. Project Name: Air Traffic Control Tower Rehabilitation Project
- C. Project Location: Battle Creek Executive Airport
- D. Owner: City of Battle Creek, Michigan
- E. Owner Project Number: TBD
- F. Project Manager: Mead & Hunt, Inc.
- G. Project Manager Project Number: 0228800-240589.01

1.02 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form
- B. The undersigned Bidder certifies that the Bid Submission to which this Bid Supplement is attached includes all necessary permit costs to complete the Work as described in the Contract Documents. And that all necessary permit costs are included in Base Bid Item 101, Air Traffic Control Tower Precast Concrete Shaft Repair.

1.03 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this ____ day of _____, 2024.
- B. Submitted By: _____
(Insert name of bidding firm or corporation)
- C. Authorized Signature: _____
(Handwritten signature)
- D. Signed By: _____
(Owner/Partner/President/Vice President)

E. Title: _____
(Owner/Partner/President/Vice President)

END OF SECTION 004323

SECTION 004393

BID SUBMITTAL CHECKLIST

1.01 BID INFORMATION

- A. Bidder: _____
- B. Project Name: Air Traffic Control Tower Rehabilitation Project
- C. Project Location: Battle Creek Executive Airport
- D. Owner: City of Battle Creek, Michigan
- E. Owner Project Number: TBD
- F. Project Manager: Mead & Hunt, Inc.
- G. Project Manager Project Number: 0228800-240589.01

1.02 BIDDER'S CHECKLIST

- A. To assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.
- B. Attach this completed checklist to the outside of the Submittal envelope.
 - 1. Used the Bid Form provided in the Project Manual.
 - 2. Prepared the Bid Form as required by the Instructions to Bidders.
 - 3. Indicated on the Bid Form from Addenda received.
 - 4. Attached to the Bid Form: Bid Bond.
 - 5. Attached to the Bid Form: Bid Supplement Form - Allocated Scheduled Value Form.
 - 6. Attached to the Bid Form: Bid Supplement Form - Warranty Form.
 - 7. Attached to this Bid Form: Bid Supplement Form - Permits Form.
 - 8. Attached to this Bid Form: Agreement Supplement Form – Subcontractor and DBE Form.
 - 9. Attached to the Bid Form: Buy American Certification.
 - 10. Attached to the Bid Form: Buy American Waiver.
 - 11. Attached to the Bid Form: DBE Utilization Statement and Letter of Intent.
 - 12. Verified that the Bidder can provide executed Performance Bond and Labor and Material Bond.
 - 13. Verified that the Bidder can provide Certificates of Insurance in the amounts indicated.

END OF SECTION 004393

SECTION 005200

OWNER CONTRACTOR AGREEMENT

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CONTRACT FORM
CONTRACT NO. 2025-008B

THIS AGREEMENT, made and entered into this _____ day of _____, 2024, by and between _____ hereinafter called the "Contractor" and the City of Battle Creek, hereinafter called the "Owner."

In consideration for the mutual covenants hereinafter stated, the parties agree for themselves, their personal representatives, successors, assigns as follows:

I. The Contractor promises and agrees, for the ATCT Rehabilitation Project.

A. To furnish all materials, construction water, equipment, tools, dewatering devices, skill and labor of every description necessary or reasonable incidental to carrying forth and completing in good, firm, substantial and workmanlike manner, the work specified, in strict conformity with the true intent of the NOTICE TO BIDDERS, SPECIAL INSTRUCTIONS, GENERAL INSTRUCTIONS, INVITATION FOR BID, SPECIAL CONDITIONS, GENERAL CONDITIONS, AGREEMENT, BONDS, GENERAL SPECIFICATIONS, CONTRACTOR'S BID and Project Specifications, and other contract documents and addenda thereto, which are hereby made a part hereof as fully and to the same effect as though they had been set forth at length herein.

B. To commence work under this contract on or before a date to be specified by the owner in a written Notice to Proceed and complete the project by the date specified in the Invitation for Bid.

C. Requirements for a specific trade or contract will generally be described in that portion of the specifications or drawings related to that trade or contract. Such requirements may, however, be described in other sections of the Contract Documents. The Contractor will be held responsible for having carefully examined all drawings and read all requirements of the specifications and all Contract Documents to avoid omissions or duplications and to insure a complete job.

D. The Contractor must be fully informed about conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of their obligation to furnish all material and labor necessary to carry out the provisions of this contract.

E. Any claim by the Contractor of an inability to meet any requirement set forth in the Contract Documents, or that any requirement of these documents is impractical or unreasonable, will not be recognized, unless the claim was made at the time their Bid was submitted, and specific provision is made for such claim in the Agreement between Owner and Contractor (Bid and Agreement).

F. Warranty: Contractor shall remove and replace at no additional cost to the City any defects in workmanship or materials that may be apparent or may develop within a period of one (1) year from the date of final acceptance.

G. NON-DISCRIMINATION CLAUSE: The bidder agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of such contract with respect to hire tenure, terms, conditions or privileges, of employment, or any matter directly or indirectly related to employment because of his or her actual or perceived race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability, family status, sexual orientation, or gender identity. Breach of this covenant may be regarded as a material breach of the contract as provided for in Act 220 and Act 453 of the Public Acts of 1976, as amended, entitled "Michigan Handicapper's Civil Rights Act" and/or the "Michigan Elliott Larson Civil Rights Act" and/or City of Battle Creek Chapter 214 "Discrimination Prohibited" Ordinance. The bidder further agrees to require similar provisions from any subcontractors, or suppliers. The bidder agrees to comply with the Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, as supplemented in Department of Labor regulations (41 CFR, Chapter 60).

II. The Owner promises and agrees:

- A. To pay the Contractor for said work when completed in accordance with the provisions of these contract documents, and for the contract sum of:

_____ dollars (\$_____).

Payment for work is subject to additions provided therein and for the authorized work complete in place and accepted by the Owner or its authorized representatives.

III. It is further understood and agreed between the parties hereto as follows:

- A. The said work is to be done in accordance with the laws of the State of Michigan to the entire satisfaction and approval of the Owner or its duly authorized representatives.

- B. The decision of said Owner's authorized representative upon any questions connected with the execution of this Agreement or any failure or delay in the prosecution of the work by said Contractor shall be final and conclusive.

- C. If, at any time after the execution of the Agreement and the Bond for its faithful performance, the Owner shall deem the surety or sureties then upon said bond to be unsatisfactory or, if, for any reason said bond shall cease to be adequate security for the performance of the work, the Contractor shall, at their expense, within fifteen (15) calendar days after receipt of written notice from the Owner to do so, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the Owner. In such event, no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the work shall be furnished in a manner and form satisfactory to the Owner.

- D. VENUE: Any party bringing a legal action or proceeding against any other party arising out of or relating to this Agreement or the transactions it contemplates shall bring the legal action or proceeding:

- (i) in the United States District Court for the Western District of Michigan; or
- (ii) in any court of the State of Michigan sitting in Calhoun County, if there is no federal subject matter jurisdiction.

E. GOVERNING LAW: This agreement shall be enforced under the laws of the State of Michigan. Contractor must comply with all applicable federal, state, county, and City laws, ordinances, and regulations. Contractor shall ensure payment of all taxes, licenses, permits, and other expenses of any nature associated with the provision of services herein. Contractor shall maintain in current status all Federal, State and Local licenses and permits required for the operation of the business conducted by the Contractor.

IN WITNESS WHEREOF, the said parties have hereunto set their hands and affixed their seals, the day and year first above written.

STATE OF MICHIGAN)

) ss

COUNTY OF CALHOUN)

In the Presence of:

Notary Public

CONTRACT FORM APPROVED BY:

City Attorney

SIGNED, SEALED, AND
EXECUTED BY CONTRACTOR:

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder, and that our firm is not debarred from doing business under the Federal Excluded Parties List System (epls.gov):

By: _____

Title: _____

SIGNED, SEALED, & EXECUTED
BY CITY OF BATTLE CREEK

City Manager

END OF SECTION 005200

0228800-240589.01
Issued For Bid

BTL ATCT Rehabilitation
Battle Creek Executive Airport

SECTION 005400

SUBCONTRACTOR AND DBE FORM

1.01 BID INFORMATION

- A. Bidder: _____
- B. Project Name: Air Traffic Control Tower Rehabilitation Project
- C. Project Location: Battle Creek Executive Airport
- D. Owner: City of Battle Creek, Michigan
- E. Owner Project Number: TBD
- F. Project Manager: Mead & Hunt, Inc.
- G. Project Manager Project Number: 0228800-240589.01

1.02 AGREEMENT FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.

1.03 YOUR FIRM'S BACKGROUND:

- A. Is your firm an MBE (at least 51% minority ownership)? _____ YES _____ NO
- B. Is your firm a WBE (at least 51% woman ownership)? _____ YES _____ NO
- C. Are you subcontracting any part of this project? _____ YES _____ NO

1.04 SUBCONTRACTING INFORMATION:

- A. If subcontracting any part of the project, the bidder/contractor expressly agrees that:
- (1) If awarded a contract as a result of this bid, the major subcontractors used in the prosecution of the work will be those listed below, and
 - (2) The following list includes all subcontractors who will perform work representing approximately five percent (5%) or more of the Total Base Bid.
 - (3) The Bidder represents that the subcontractors listed below are financially responsible and are qualified to do the work required.

SUBCONTRACTOR NAME	CITY/STATE	TRADE OR COMMODITY	MBE	WBE	APPROXIMATE DOLLAR VALUE
			Y / N	Y / N	

END OF SECTION 005400

SECTION 006000

PROJECT FORMS

1.01 FORM OF AGREEMENT AND GENERAL CONDITIONS

- A. The following form of Owner/Contractor Agreement shall be used for Project and is included in the Project Manual:
 - 1. City of Battle Creek Standard Form of Agreement between Owner and Contractor Where the Basis of Payment is a Stipulated Sum. Contract Number 2025-008B.
- B. The following form of the Conditions of the Contract shall be used for this Project and are included in the Project Manual.
 - 1. General Conditions - Battle Creek.
 - 2. General Contract Provisions - FAA Document AC 150/5370-10H, Part 1.
 - 3. Federal Requirements for Construction on Airports.
- C. The following form of the Supplementary Conditions of the Contract shall be used for this Project and are included in the Project Manual:
 - 1. Special Provisions - FAA
 - 2. Special Provisions - MDOT
 - 3. Special Provisions - Battle Creek
- D. Where conflicts exist between the forms of the Conditions of the Contract and the forms of the Supplementary Conditions of the Contract, the most stringent requirements shall be used.

1.02 ADMINISTRATIVE FORMS

- A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.
- B. Copies of AIA standard forms may be obtained from the American Institute of Architects; www.aiacontractdocsaiacontracts.org; (800) 242-3837.
- C. Preconstruction Forms:
 - 1. Form of Performance Bond is included in the Project Manual.
 - 2. Form of Labor and Materials Bond is included in the Project Manual.

D. Payment Forms:

1. Schedule of Values Form: AIA Document G703-1992 "Continuation Sheet."
2. Payment Application: AIA Document G702-1992/703-1992 "Application and Certificate for Payment and Continuation Sheet."
3. Form of Contractor's Affidavit: AIA Document G706-1994 "Contractor's Affidavit of Payment of Debts and Claims."
4. Form of Affidavit of Release of Liens: AIA Document G706A-1994 "Contractor's Affidavit of Payment of Release of Liens."
5. Form of Consent of Surety: AIA Document G707-1994 "Consent of Surety to Final Payment."

END OF SECTION 006000

SECTION 006101

PERFORMANCE BOND

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PERFORMANCE BOND
(SURETY'S FORMS MAY BE USED)

Let it be known that _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Battle Creek in the sum of _____ dollars and ____/100 (\$_____) for the payment of which sum of money to be made, we bind ourselves, heirs, executors, administrators, successors and assigns, jointly and severally, firmly as required by written contract.

WHEREAS, the Principal has entered into a certain written contract dated the _____ day of _____, 20 ____ for the _____ complete, as described in the foregoing Bid and Agreement.

NOW THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that if the said Principal shall in all respects well and truly keep and perform the said contract, and shall pay all sums of money due or to become due, for any labor, materials, apparatus, fixtures or equipment furnished for the purpose of constructing the work provided in said contract, and shall defend, indemnify and save harmless said City of Battle Creek against any liens, encumbrances, damages, claims, demands, expenses, costs and charges of every kind except as otherwise provided in said specifications and other Contract Documents arising out of or in relation to the performance of said work and the provisions of said contract, and shall remove and replace any defects in workmanship or materials which may be apparent or may develop within a period of one (1) year from the date of final acceptance, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agreed that no change, extension of time, alteration or addition to the terms of the contract or to work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____.

PRINCIPAL ATTEST:

Principal Business Name

Principal Secretary Signature & Seal

Address

Principal Secretary Printed Name

City, State, Zip

Witness of Principal

SURETY ATTEST:

Surety Business Name

BY: _____
Attorney-in-Fact Signature & Seal

Address

Attorney-in-Fact Printed Name

City, State, Zip

END OF SECTION 006101

SECTION 006102

LABOR AND MATERIALS BOND

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**LABOR AND MATERIALS BOND
(SURETY'S FORM MAY BE USED)**

Let it be known that, that we, the undersigned, _____, hereinafter called the "Principal," and _____, a corporation organized and existing under the laws of the State of _____, having its principal office at _____, hereinafter called the "Surety," are held and firmly bound unto the City of Battle Creek, hereinafter called the "Owner," for use of any and every person, co-partnership, association or corporation interested in sum of _____ dollars and ____/100 (\$ _____), to be paid to the said obligees or its or their assigns, to which payment be made we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. Sealed with our respective seals and dated this ____ day of _____, 20____.

WHEREAS, the above bounded _____, Principal, has entered into a contract with the City of Battle Creek.

Dated the ____ day of _____, 20____, for the _____.

NOW, THEREFORE, THE CONDITION OF THIS CONDITION IS SUCH, that if the above bounded Principal shall and will promptly pay or cause to be paid all sums of money which may be due any person, co-partnership, association or corporation for all material furnished and labor supplied or performed in the prosecution of the work, whether or not the said material or labor enter into and become component parts of the work or improvement contemplated, then this obligation to be void; otherwise to remain in full force and effect.

The Principal and Surety further jointly and severally agree with the obligee herein that every person, co-partnership, association or corporation who, whether as subcontractor or otherwise, has furnished material or supplied or performed labor in the prosecution of the work as above provided and who has not been paid therefore may sue in assumption on this bond in the name of the Owner for their use prosecute the same to final judgment for such sum or sums as may be justly due to them, and have execution thereon, provided, however, that the Owner shall not be liable for payment of any costs or expenses of any such suit.

IT IS FURTHER AGREED, that any alterations that may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Owner or any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and Surety or Sureties or either or any of them their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the Surety or Sureties of any such alteration, extension or forbearance being hereby waived.

0228800-240589.01
Issued For Bid

BTL ATCT Rehabilitation
Battle Creek Executive Airport

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under the seal and day and year first above written.

PRINCIPAL ATTEST:

Principal Business Name

Principal Secretary Signature & Seal

Address

Principal Secretary Printed Name

City, State, Zip

Witness of Principal

SURETY ATTEST:

Surety Business Name

BY: _____
Attorney-in-Fact Signature & Seal

Address

Attorney-in-Fact Printed Name

City, State, Zip

END OF SECTION 006101

SECTION 006239

DBE UTILIZATION STATEMENT

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UTILIZATION STATEMENT
Disadvantage Business Enterprise (DBE)

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner. *(Please mark the appropriate box)*

- ☐ The bidder/offeror is committed to a minimum of 3.0 % DBE utilization on this contract.
- ☐ The bidder/offeror, while unable to meet the DBE contract goal of 4.0 %, hereby commits to a minimum of _____% DBE utilization on this contract and submits the attached documentation as evidence demonstrating good faith efforts (GFE) in seeking participation by certified DBE firms.

The undersigned hereby further assures that the information included herein is true and correct, and that the DBE firm or firms identified within the submitted Letter-of-Intent forms have agreed to perform a commercially useful function for the indicated work elements.

The undersigned further understands that no changes to this statement may be made without prior approval from the Owner and the Federal Aviation Administration

Bidder's/Offerors Firm Name

Signature

Date

DBE UTILIZATION SUMMARY

<u>Percentage</u>	<u>Contract Amount</u>		<u>DBE Amount</u>	<u>Contract</u>
DBE Prime Contractor	\$ _____	x 1.00 =	\$ _____	_____ %
DBE Subcontractor	\$ _____	x 1.00 =	\$ _____	_____ %
DBE Supplier	\$ _____	x 0.60 =	\$ _____	_____ %
DBE Manufacturer	\$ _____	x 1.00 =	\$ _____	_____ %
Total Amount DBE			\$ _____	_____ %
DBE Goal			\$ _____	_____ %

* If the total proposed DBE participation is less than the established DBE goal, Bidder must provide written documentation of the good faith efforts as required by 49 CFR Part 26.

SECTION 006241

BUY AMERICAN CERTIFICATION

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BUY AMERICAN CERTIFICATION

The contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP-funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must submit the appropriate Buy America certification (below) with all bids or offers on AIP funded projects. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive.

Certificate of Buy American Compliance for Total Facility

(Buildings such as Terminal, SRE, ARFF, etc.)

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e. not both) by inserting a checkmark (✓) or the letter "X".

- ☐ Bidder or offeror hereby certifies that it will comply with 49 USC. 50101 by:
- a) Only installing steel and manufactured products produced in the United States; or
 - b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing US domestic products
3. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- ☐ The bidder or offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To the submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may results in rejection of the proposal.

3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
4. To furnish US domestic product for any waiver request that the FAA rejects.
5. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver - The cost of components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "facility". The required documentation for a type 3 waiver is:

- a) Listing of all manufactured products that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety)
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
- c) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

END OF SECTION 006241

SECTION 007210

DESIGN AND CONSTRUCTION STANDARDS

1.01 DESIGN AND CONSTRUCTION STANDARDS

- A. This project shall follow all current Federal, State, and local regulations and has been designed in accordance with Federal Aviation Administration standards in effect at the time of bidding.
- B. The FAA General Provisions and Technical Specifications are in accordance with FAA Advisory Circular 150/5370-10H, Standard Specifications for Construction of Airports.
- C. Copies of applicable FAA Standards may be obtained online at:
https://www.faa.gov/airports/resources/advisory_circulars/.

1.02 CONSTRUCTION SAFETY PHASING PLAN

- A. The Construction Safety and Phasing Plan is in accordance with FAA Advisory Circular 150/5370-2G, Operational Safety on Airports During Construction.

END OF SECTION 007210

SECTION 007213

GENERAL CONDITIONS - BATTLE CREEK

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TERMS AND CONDITIONS

1. **ACCIDENT PREVENTION:** The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all the damages to persons or property either on or off the site, which occur as a result of the contractor's fault or negligence in connection with the prosecution of the work. The safety provisions of applicable laws and OSHA standards shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the city may determine to be reasonably necessary.
2. **CONFLICTS AND OMISSIONS:** The intent of the contract documents is to provide everything necessary for the proper execution of the work. In case of conflict, the work shall not proceed until a decision has been agreed upon by all parties concerned. The City's decision shall be final.
3. **WORKING CONDITIONS:** The contractor shall conduct all work in accordance with all regulations governing the City Unit wherein the work is to be performed and with minimum possible interference with the proper functioning of the activities of the City Unit. Materials, tools, etc., shall be confined so as not to unduly encumber the premises.
4. **PRIOR EXAMINATION:** Contractor shall be familiar with local conditions affecting the job prior to submitting the bid. Contractor shall take their own measurements and be responsible for the correctness of same. Contractor shall be held to have made such examinations and no allowances will be made in their behalf by reason of error or omission on their part. If any part of the Contractor's work depends for proper results upon existing work or the work of another contractor, the Contractor, before commencing work, shall notify the Director in writing of any defects that will affect the results.
5. **OTHER CONTRACTS:** The City may let other contracts in connection with the work and the Contractor shall properly connect and coordinate their work with the work of such other contractors. The City shall not be liable for any damages or increased costs occasioned by the failure of other contractors or sub-contractors to execute their work as may be anticipated by these documents.
6. **INSPECTION:** Contractor shall at all times permit and facilitate inspection of the work by the City.
7. **CHANGES:** Contractor shall make changes in the contracted work only as ordered in writing by the City. The actual work performed under this contract may be increased 50% or decreased 25% from the approximate quantities set forth in the Schedule included herein. Work will be performed only based on written authorization from the City. The City reserves the right to include other similar projects in this contract over and above those mentioned in said tabulations within these limitations. If extra work orders are given in accordance with the provisions of this contract, such work shall be considered a part hereof and subject to each and all of its terms and requirements.

8. **GUARANTEE:** Contractor guarantees to remedy any defects due to faulty materials or workmanship, which appear in the work within one year from the date of final acceptance by the City.
9. **PROTECTION:** Contractor shall properly protect all new and existing structures from damage. Contractor shall comply with all safety rules and regulations as published by the Michigan Dept. of Labor, Bureau of Safety and Regulations.
10. **CLEAN-UP:** Contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by their employees or work and at the completion of the work they shall remove all their waste, tools, equipment, staging and surplus materials from the structure and grounds used by the contractor and leave work clean and ready for use.
11. **SAFETY RULES:** Contractor shall perform all work under this contract in conformance with the State of Michigan general safety rules and regulations for the construction industry, as set out or authorized by the Michigan Occupational Safety and Health Act, Public Act 154 of 1974, as amended.

12. CANCELLATION:

This agreement may be terminated for reasons of convenience or default.

- a) Termination for Convenience: The City of Battle Creek may terminate this Agreement, in whole or in part, at any time by written notice to the Contractor. The Contractor shall be paid its costs, including Contract closeout costs and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to be paid the Contractor. If the Contractor has any property in its possession belonging to or paid for by the City of Battle Creek, the Contractor will account for same, and dispose of it in the manner the City of Battle Creek directs.
- b) Termination For Cause or Breach: If the Contractor does not deliver the complete Project in accordance with this Agreement or if the Contractor fails to comply with any other provisions of the Agreement, The City of Battle Creek may terminate, revoke or rescind this Agreement for default. Termination, revocation or rescission shall be effected by serving notice on the Contractor setting forth the manner in which the Contractor is in default. The Contractor will only be paid the Contract price for the portions of the Project furnished, accepted, and found in compliance with the terms and conditions of this Agreement.

If it is later determined by the City of Battle Creek that the Contractor has an excusable reason for not performing, such as a strike, fire or flood, events which are not the fault of, or are beyond the control of the Contractor. The City of Battle Creek, after setting up a new delivery or performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

Termination, revocation or recession of this Agreement for default shall not affect or impair any rights or claims of the City of Battle Creek to damages for breach of any covenants of this Agreement by the Contractor. Further,

should the Contractor fail to comply with the conditions of the Agreement or fail to complete the specified work or furnish the specified services as stipulated in the Agreement, the City of Battle Creek reserves the right to purchase on the open market, or to complete the required work at the expense of the Contractor and to pursue all other recoveries available to the City of Battle Creek under Michigan law.

13. SUBCONTRACTORS: Bidders shall submit with the Bid any and all subcontractors to be associated with their bid, including the type of work to be performed. All subcontractors shall be bound by all of the terms, conditions and requirements of the bid/contract; however, the prime contractor shall be responsible for the performance of the total work requirements. Contractor must provide copies of licenses for subcontractors. No subcontractor will be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor and he will be held responsible for their work, which shall be subject to the provisions of the contract.

- The Contractor shall notify the Owner in writing of the names of all subcontractors he proposes to employ on the contract and shall not employ any subcontractors until the Owner's approval has been obtained.
- The Contractor agrees to be fully and directly responsible to the Owner for all acts and omissions of their subcontractors and of any other person employed directly or indirectly by the Contractor or subcontractors, and this contract obligation shall be in addition to the liability imposed by law upon the Contractor.
- Nothing contained in this Contract Documents shall create any contractual relationship between any subcontractor and the Owner. It shall be further understood that the Owner will have no direct relations with any subcontractor. Any such necessary relations between Owner and subcontractor shall be handled by the Contractor.
- The Contractor agrees to bind every subcontractor (and every subcontractor of a subcontractor, etc.) by all terms of the Contract Documents as far as applicable to the subcontractors' work unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner.

14. EMPLOYEES AND SUPERINTENDENCE: Contractor shall enforce good order among their employees and shall not employ on the work site any disorderly, intemperate or unfit person or anyone not skilled in the work assigned to them. Contractor, or a competent person having authority to act for them, shall be at the work site at all times.

15. ASSIGNMENT OF CONTRACT: The Contract may not be assigned in whole or in part except upon the written consent of the Owner. Any assignment agreement shall be subject to review and approval by the Owner.

16. DEBARMENT & SUSPENSION: Debarment and Suspension (E.O.s 12549 and 12689) - No contract shall be made to parties listed on the General Services Administration's List of Parties Excluded from Federal Procurement or Non-procurement Programs in accordance with E.O.s 12549 and 12689, "Debarment and Suspension," as set

forth in 24 CFR part 24. This list contains the names of parties debarred, suspended, or otherwise excluded by agencies, and contractors declared ineligible under statutory or regulatory authority other than E.O. 12549. Contractors with awards that exceed the small purchase threshold shall provide the required certification regarding its exclusion status and that of its principal employees.

17. DISPUTES

Except as otherwise provided in the Contract, any dispute concerning a questions of fact arising under the Contract that is not disposed of by agreement shall be decided by the City of Battle Creek's City Engineer who shall reduce his/her decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the City Engineer shall be final, unless determined by a court of competent jurisdiction to have been fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute there under, the Contractor shall proceed diligently with the performance of the Contract and in accordance with City Engineer's decision.

This clause does not preclude consideration of law questions in connection with decision provided for in this clause, provided that nothing in this Contract shall be construed as making final the decision of any administrative official, representative or board on a question of law.

18. SUPPLEMENTAL SCHEDULE OF UNIT PRICES FOR CONSTRUCTION CHANGES

Where the Proposal Form requires a lump sum bid for a particular item (or items) and further requires bidder to submit a supplemental schedule of Unit Prices for possible construction changes in such item(s), the Owner may if it considers such Unit Prices reasonable include these prices in the Construction Contract. If the Owner considers such Unit Prices as unreasonable he may omit same from the Construction Contract.

Rejection at any time of such Unit Prices for Construction Changes as stated in the Proposal shall not otherwise affect the balance of the Proposal or Construction Contract.

END OF SECTION 007213

SECTION 007214

GENERAL CONTRACT PROVISIONS

FAA AC 150-5370-10H

PART 1 - GENERAL CONTRACT PROVISIONS

**SECTION 10
DEFINITION OF TERMS**

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time

Paragraph Number	Term	Definition
		adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.

Paragraph Number	Term	Definition
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the City of Battle Creek, Michigan .
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.

Paragraph Number	Term	Definition
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical

Paragraph Number	Term	Definition
		ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None.

END OF SECTION 10

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SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). Included in Project Manual as Section 001113.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal.

- a. **Hard copy submittal.** When submittal of hard copy proposals is required per the Instructions to Bidders, each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.
- b. **Electronic submittal.** When submittal of electronic proposals is required per the Instructions to Bidders, each proposal submitted shall be transmitted to the on-line bidding service along with all supporting documentation as required per the Project Manual. No proposal will be considered unless received via the on-line bidding service as specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall not be accepted.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than 7 days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

SECTION 30
AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

- a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.
- b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 90 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

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SECTION 50 CONTROL OF WORK

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions.

1. Federal Requirements
2. MDOT Special Provisions including Appendix A
3. MDOT Requirements for DBE/WBE
4. MDOT Insurance Provision
5. MDOT Bonding Provision
6. MDOT W9 Provision
7. MDOT Provision for Prompt Payment
8. MDOT Provision for Certified Payrolls

9. MDOT Provision for Industrial By-Products and Beneficial Re-Use

50-05 Cooperation of Contractor. The Contractor shall purchase hard copies or an electronic PDF of the plans and specifications as noted in the Advertisement for Bids. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **AutoCAD Civil 3D and .csv point files.**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

The Contractor shall be responsible for videotaping and/or photographing all haul roads prior to commencement of construction activities.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

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SECTION 60 CONTROL OF MATERIALS

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

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SECTION 70
LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Concurrent work, if known at the time of bidding, is shown on plan sheets.

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, *Operational Safety on Airports During Construction*.

The CSPP is included in the project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

See the CSPP for description of construction phasing requirements.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other

facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

See the CSPP for description of utility services.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

- a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.
- b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport Owner a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.
- c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.
- d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.
- e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing

of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. See Special Provisions.

END OF SECTION 70

SECTION 80 EXECUTION AND PROGRESS

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 14 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions

shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

See CSPP for AOA Closures.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with

local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

The liquidated damages schedule is specified in the construction plans.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

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**SECTION 90
MEASUREMENT AND PAYMENT**

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.

Term	Description
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i> .
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. From the total of the amount determined to be payable on a partial payment, **Five (5) percent** of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

- a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.
- b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.
- c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.
- d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.
- e. The Owner will notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.
- f. If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

- a.** Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.
- b.** Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- c.** Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.
- d.** Complete all punch list items identified during the Final Inspection.
- e.** Provide complete release of all claims for labor and material arising out of the Contract.
- f.** Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
- g.** When applicable per state requirements, return copies of sales tax completion forms.
- h.** Manufacturer's certifications for all items incorporated in the work.
- i.** All required record drawings, as-built drawings or as-constructed drawings.
- j.** Project Operation and Maintenance (O&M) Manual(s).
- k.** Security for Construction Warranty.
- l.** Equipment commissioning documentation submitted, if required.

END OF SECTION 90

END OF SECTION 007214

SECTION 007215

FEDERAL REQUIREMENTS FOR CONSTRUCTION OF AIRPORTS

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ACCESS TO RECORDS AND REPORTS
2 CFR § 200.333 / 2 CFR § 200.336 / FAA Order 5100.38

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives, access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

AFFIRMATIVE ACTION REQUIREMENT
41 CFR PART 60-4 / EXECUTIVE ORDER 11246

For all contracts containing construction work in excess of \$10,000:

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for female participation in each trade: 6.9%

Goals for minority participation for each trade:
(Vol. 45 Federal Register pg. 65984 10/3/80)

Geographical Area (By Counties)	Goals (Percent)
Lapeer, Livingston, Macomb, Oakland, St. Clair, Wayne	17.7
Sanilac	16.7
Saginaw	14.3
Genesee, Shiawassee	12.6
Muskegon, Oceana	9.7
Monroe	8.8
Washtenaw	8.5
Lenawee	7.3
Barry, Calhoun	7.2
Berrien, Cass, St. Joseph	6.2

Kalamazoo, VanBuren	5.9
Clinton, Eaton, Ingham, Ionia	5.5
Branch, Hillsdale	5.5
Alcona, Alpena, Arenac, Cheboygan, Chippewa, Clare, Crawford, Gladwin, Gratiot, Huron, Iosco, Isabella, Luce, Mackinac, Midland, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Tuscola	5.2
Kent, Ottawa	5.2
Jackson	5.1
Allegan, Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Newaygo, Osceola, Wexford	4.9
Bay	2.2
Gogebic, Ontonagon	1.2
Alger, Baraga, Delta, Dickinson, Houghton, Iron, Keweenaw, Marquette, Menominee, Schoolcraft	1.0

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer Guidelines for Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects Issued on June 19, 2018 Page 4 identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is the Owner/SPONSOR as identified on page one of this contract.

BREACH OF CONTRACT 2 CFR § 200 Appendix II(A)

Any violation or breach of terms of this contract on the part of the *Contractor* or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide *Contractor* written notice that describes the nature of the breach and corrective actions the *Contractor* must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the *Contractor* must correct the breach. Owner may proceed with termination of the contract if the *Contractor* fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

BUY AMERICAN PREFERENCE

Title 49 USC § 50101 / Executive Order 14005, *Ensuring the Future is Made in All of America by All of America's Workers* / Bipartisan Infrastructure Law (Pub. L. No. 117-58), Build America, Buy America (BABA)

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,^a U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including

^a Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

GENERAL CIVIL RIGHTS PROVISIONS **49 USC § 47123**

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

CIVIL RIGHTS - TITLE VI SOLICITATION NOTICE: **49 USC § 47123 / FAA ORDER 1400.11**

The **Sponsor**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, [select disadvantaged business enterprises or airport concession disadvantaged business enterprises] will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

TITLE VI - LIST OF PERTINENT NONDISCRIMINATION ACTS AND AUTHORITIES **49 USC § 47123 / FAA ORDER 1400.11**

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms

“programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

TITLE VI CONTRACTS- COMPLIANCE WITH NONDISCRIMINATION REQUIREMENTS 49 USC § 47123 / FAA ORDER 1400.11

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its

books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

CLEAN AIR AND WATER POLLUTION CONTROL 2 CFR § 200, Appendix II(G)

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS 2 CFR § 200, APPENDIX II(E)

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a

rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

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

3. Withholding for Unpaid Wages and Liquidated Damages.

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

4. Subcontractors.

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

COPELAND “ANTI-KICKBACK” ACT 2 CFR Part 200, Appendix II(D)

This applies to all construction contracts and subcontracts in excess of \$2,000 and include funding from the AIP program. This provision also applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP program that exceed \$2,000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor’s plant (e.g. SRE and ARFF vehicles).

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

DAVIS BACON REQUIREMENTS
2 CFR § 200, Appendix II (D) 29 CFR Part 5

This applies to all construction contracts and subcontracts in excess of \$2,000 and include funding from the AIP program. This provision also applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP program that exceed \$2,000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor's plant (e.g. SRE and ARFF vehicles).

1. Minimum Wages.

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

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

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

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

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

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

2. Withholding. The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

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

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

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

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

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

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

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

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

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

4. Apprentices and Trainees.

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

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

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

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

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

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

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

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

10. Certification of Eligibility.

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

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

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

DEBARMENT AND SUSPENSION

2 CFR part 180 (Subpart C) / 2 CFR part 1200 / DOT Order 4200.5

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offerer /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

DISADVANTAGED BUSINESS ENTERPRISES 49 CFR PART 26

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and

- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Race/Gender Neutral Means

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Michigan Department of Transportation and the Sponsor to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Contract Assurance (§ 26.13) - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of Department of Transportation-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the owner deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (§26.29) - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than *fifteen* days from the receipt of each payment the prime contractor receives from *Michigan Department of Transportation or the Sponsor*. The prime contractor agrees further to return retainage payments to each subcontractor within *fifteen* days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the *Engineer*. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor (or an approved substitute DBE firm) without prior written consent of the Michigan Department of Transportation. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent the Michigan Department of Transportation. Unless the Michigan Department of Transportation consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

the Michigan Department of Transportation may provide such written consent only if the Michigan Department of Transportation agrees, for reasons stated in the concurrence document, that the prime

contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the Michigan Department of Transportation its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the Michigan Department of Transportation of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the Michigan Department of Transportation and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Michigan Department of Transportation should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the Michigan Department of Transportation may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

DISTRACTED DRIVING
Executive Order 13513 / DOT Order 3902.10

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, “Federal Leadership on Reducing Text Messaging While Driving”, (10/1/2009) and DOT Order 3902.10, “Text Messaging While Driving”, (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

**PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE
SERVICES OR EQUIPMENT**
2 CFR § 200, Appendix II(K) / 2 CFR § 200.216

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

EQUAL OPPORTUNITY CONTRACT CLAUSE
2 CFR 200, APPENDIX II(C) / 41 CFR § 60-1.4 / 41 CFR § 60-4.3 / EXECUTIVE ORDER 11246

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that

applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identify, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS**

2 CFR 200, APPENDIX II(C) / 41 CFR § 60-1.4 / 41 CFR § 60-4.3 / EXECUTIVE ORDER 11246

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices

may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for

each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)
29 U.S.C. § 201, ET SEQ / 2 CFR § 200.430**

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

**LOBBYING AND INFLUENCING FEDERAL EMPLOYEES
31 USC § 1352—Byrd Anti-Lobbying Amendment / 2 CFR part 200, Appendix II(J) / 49 CFR part
20 Appendix A
FA**

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

PROHIBITION of SEGREGATED FACILITIES 41 CFR 60

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.

(b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 20 CFR PART 1910

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

PROCUREMENT OF RECOVERED MATERIALS 2 CFR 200.322 / 40 CFR PART 247

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

SEISMIC SAFETY 49 CFR PART 41

In the performance of design services, the Contractor agrees to furnish a building design and associated construction specification that conform to a building code standard that provides a level of seismic safety substantially equivalent to standards as established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their building code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety. At the conclusion of the design services, the Contractor agrees to furnish the Owner a “certification of compliance” that attests conformance of the building design and the construction specifications with the seismic standards of NEHRP or an equivalent building code.

SEISMIC SAFETY

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Guidelines for Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects Issued on November 18, 2022 Page 65 Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

TAX DELINQUENCY AND FELONY CONVICTIONS

Sections 415 and 416 of Title IV, Division L of the Consolidated Appropriations Act, 2014 (Pub. L. 113-76), and similar provisions in subsequent appropriations acts; DOT Order 4200.6 -

Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- a) The applicant represents that it is (☐) is not (☐) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- b) The applicant represents that it is (☐) is not (☐) is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twentyfour (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

TERMINATION OF CONTRACT

2 CFR § 200 Appendix II(B) / FAA Advisory Circular 150/5370-10, Section 80-09

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

- a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- b) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
- c) reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- d) reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR DEFAULT (CONSTRUCTION)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights, and remedies associated with Owner termination of this contract due to default of the Contractor.

TERMINATION FOR DEFAULT (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

1. Fails to commence the Work under the Contract within the time specified in the Notice- to-Proceed;

2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within [10] days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

TRADE RESTRICTION CERTIFICATION 49 USC 50104 / 49 CFR PART 30

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

VETERAN'S PREFERENCE 49 USC § 47112©

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by

15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

DOMESTIC PREFERENCE FOR PROCUREMENTS
2 CFR § 200, Appendix II(K)

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

END OF SECTION 007215

SECTION 007302

SPECIAL PROVISIONS - FAA

1.01 SPECIAL PROVISION FOR QUALITY ASSURANCE TESTING

- A. This Special Provision shall hereby designate all Quality Assurance (QA) testing as prescribed under FAA General Provision Section 60-02 (Samples, tests, and cited specifications) and the project FAA Technical Specifications shall be borne by the Contractor.
- B. Quality Assurance (QA) tests shall be made by and at the expense of the Contractor.
- C. QA testing shall be in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.
- D. QA testing shall be completed by the Contractor at the frequency specified within each of the FAA Technical Specifications.
- E. When the FAA Technical Specifications require QA testing as a basis of acceptance such tests will not be performed by the RPR / Owner; sampling and testing shall be completed by a qualified representative of the Contractor and results expeditiously provided to the Engineer for review and acceptance of the work.
- F. All other portions of Section 60-02 shall remain in effect.

END OF SECTION 007302

SECTION 007303

SPECIAL PROVISIONS - MDOT

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MDOT SPECIAL PROVISION 1 STATE REQUIREMENTS

Agency Agreement An agreement between the sponsor and the Michigan Aeronautics Commission authorizing the Aeronautics Commission to act for the sponsor in the receipt and disbursement of funds, the supervision of the preparation and execution of legal documents, the supervision of the preparation of plans, specifications, and the letting of contracts, the making of periodic inspections of construction and the performance of incidental administrative acts and coordination necessary for the successful accomplishment of the project within the laws of the State and the charters, laws, ordinances and resolutions of the sponsor. The administration of the agency has been delegated by the Aeronautics Commission, to the Department's Office of Aeronautics, which acts laterally through the other Bureaus of the Department to perform the necessary administrative functions under the jurisdiction of the Michigan State Transportation Commission.

Agent The Michigan Aeronautics Commission acting as agent within the agency agreement with the sponsor. Also, the Bureau and the Department acting within delegated administrative authority.

Subcontractor The prequalified (where required) individual, partnership or corporation, or a combination thereof, undertaking the execution of a part of the work under the terms of the contract, by virtue of an agreement with the contractor approved by the owner.

Subletting Contract Work to Disadvantaged Business Enterprises (DBE)

The DBE portion of work set for a project, as specified in the notice of advertisement, shall be made available to Department certified Disadvantaged Business Enterprises (DBEs). Compliance with the designated DBE participation goal must be met by the utilization of DBEs to perform commercially useful functions as required by 49 CFR 26.55 of the Federal Register.

The names of the DBEs and the description of work to be performed by each will be submitted by the apparent low Bidder to the Sponsor with 14 days after the furnishing of the contract and bond forms to the apparent low Bidder. This information will be submitted on the forms typically used by the Department and signed by an authorized signer for each certified DBE and the prime Contractor.

A Bidder who fails to submit the names of certified DBEs and the description and value of work to be performed by each DBE, sufficient to meet the DBE participation goal, will be deemed ineligible for award of the contract unless the Bidder submits a request for consideration of waiver or modification of the DBE participation goal on the form and in the format required by the Department or is granted additional time to correct an inadvertent error.

a. Pre-Award Waivers or Modifications. If an apparent low bidder submits a request for waiver or modification of the DBE participation goal the contract will not be awarded until a determination is made by the Sponsor. The Contractor must submit evidence of good faith efforts to meet the DBE participation goal. The Sponsor will advise the Contractor of its decision by certified mail.

If the Sponsor denies the request, the Sponsor will notify the Bidder of the determination by certified mail. The determination will include a statement of any additional good faith efforts that the Bidder may take in order to effect compliance. The Bidder will have 10 calendar days from the date of the Bidder's receipt of such determination to comply or appeal. If the Bidder fails to comply with the Sponsor's determination

within the 10 calendar day period, the Bidder will be deemed ineligible for award of the contract.

b. Post-Award Waivers or Modifications. 49 CFR 26.53 provides that prime Contractors may not terminate for convenience an approved DBE working on a federally assisted contract, and then perform the work of the terminated DBE. Additionally, the Sponsor will be notified immediately of a DBE's inability to perform any and all of its work and the Contractor's intent to obtain a substitute DBE. Contractors are required to make a good faith effort to replace a DBE that is unable to perform with another DBE. The substitute DBE must be approved by the Sponsor prior to starting work.

The Contractor may, after award, request a waiver or modification of the DBE participation goal. The Contractor must submit evidence of good faith efforts to meet the DBE participation goal and include proof that on the date the Contractor became aware the DBE goal would not be met, the amount of contract work remaining was carefully reviewed to identify other work which could be subcontracted to DBE firms.

If the Sponsor determines the Contractor has demonstrated a sufficient good faith effort to achieve the goal, the Sponsor will modify or waive the goals as requested. If the Sponsor denies the request or modifies the goal in a manner other than that requested, the Sponsor will notify the Contractor by certified mail within 20 calendar days of receipt of the request.

Requests for waiver or modification of the goal for DBE participation will be submitted to the Office of Equal Opportunity (OEO). The Sponsor will evaluate the good faith efforts of the Contractor based on the direction provided by 49 CFR, Appendix A to Part 26-Guidance Concerning Good Faith Efforts of the Federal Register. Where deemed appropriate and/or required, the concurrence to the Federal Aviation Administration will be sought.

c. Reports. The prime Contractor is required to submit to the Resident Project Representative a complete MDOT Form 164 *Prime Contractor Statement of DBE, Subcontractor Payments* once every three months according to the form schedule.

A Final statement will be submitted within 30 days after the Resident Project Representative's submission of the final pay estimate.

State Aid Participation

The attention of the contractor is also invited to the fact that pursuant to the provisions of Act No. 327, Public Acts of 1945, State of Michigan, as amended, and subsequent acts enacted by the State Legislature appropriating funds for airport construction, the State of Michigan may pay a portion of the cost of the improvement. In accordance with said Act and any agent agreement or rules and regulations promulgated pursuant to said Act or Acts, the construction work will be subject to such inspections of the Director of the Michigan Department of Transportation, the Director of the Office of Aeronautics, the Engineer of the office of AERO or his representative, as may be deemed necessary to protect the interests of the people of the State of Michigan. The contractor shall furnish the inspecting party with every reasonable assistance to ascertain whether or not the requirements and intent of the contract are being met. Such inspection will in no way infer that the State or the Department are parties to the contract, except for those contracts wherein the Michigan State Transportation Commission is a signatory.

Responsibility for Damage Claims

Below are the requirements to satisfy the adequate protection levels for public liability and property damage insurance:

a. **Workmen's Compensation Insurance.** The contractor shall file with the Sponsor prior to the execution of the contract, a certification that he carries Workmen's Compensation Insurance.

b. **Bodily Injury and Property Damage.** The contractor, prior to execution of the contract, shall file with the Sponsor copies of complete certificates of insurance, as evidence that he carries adequate insurance, satisfactory to the owner and its agent, to afford protection against all claims for damages to public or private property, and injuries to persons, arising out of and during the progress of the work, and to its completion and, where owner of premises on or near which construction operations are to be performed.

1. **Body Injury and Property Damage Other Than Automobile.** Unless otherwise specifically required by provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily Injury Liability

Each Occurrence	Aggregate
\$1,000,000	\$2,000,000

Property Damage Liability

Each Occurrence	Aggregate
\$1,000,000	\$2,000,000

2. **Bodily Injury Liability and Property Damage Liability Automobiles.** Unless otherwise specifically required by provisions in the proposal, the minimum limits of bodily injury liability and the property damage liability shall be:

Bodily Injury Liability

Each Person	Each Occurrence
\$500,000	\$1,000,000

Property Damage Liability

Each Occurrence
\$1,000,000

Combined Single Limit for Bodily Injury & Property Damage Liability:

Each Occurrence

\$2,000,000

3. The requirements for 1 and 2 above may be met through an Umbrella policy.
4. Owner's Protective Liability. Where required as an incident to compliance with Federal laws and regulations, bodily injury and property damage protection shall be extended to the owner and its agents, including the Resident Project Representative or consulting firm.
 - c. Comprehensive Building Loss. When the contract includes a terminal or other building structure, (except for minor incidental shelters), the contractor shall provide adequate insurance, with the owner named as co-insured under each policy, covering all work, labor, and materials furnished by such contractor and all his subcontractors against loss of such building by fire, wind, storm, lightning, flood, or explosion. A certificate of proof of adequate coverage for such insurance shall be filed with the Sponsor prior to execution of the contract.
 - d. Notice. The contractor shall not cancel or reduce the coverage of any insurance required by this Section without providing 30-day prior written notice to the Sponsor. All such insurance must include an endorsement whereby the insurer shall agree to notify the Sponsor immediately of any reduction by the contractor. The contractor shall cease operations on the occurrence of any such cancellation or reduction and shall not resume operations until new insurance is in force.
 - e. Reports. At the request of the owner or its agent, the contractor or his insurance carrier shall report claims received, inspections made, and disposition of claims.

Any claim for damages arising under this contract shall be made in writing to the contractor within a reasonable time of the first observance of such damage, except as expressly stipulated otherwise in case of faulty work or materials, and shall be adjusted under the terms of this contract. Provided, however, that nothing contained herein shall be construed as preventing the filing, at any time, of claims against the contractor by reason of damage to public or private property not under the jurisdiction of the owner.

Environmental Protection of the General Provisions

In the event of conflict between Federal, State or local laws, codes, ordinances, rules and regulations concerning pollution control, the most restrictive applicable ones shall apply.

The contractor shall pay special attention to the pollution control requirements of the several specifications and supplemental specifications. Work items which may cause excessive pollution and shall be closely controlled by the contractor are:

- a. Clearing, grubbing, burning or other disposal.
- b. Stripping, excavation, and embankment.
- c. Drainage and ditching.
- d. Aggregate production, handling and placing.
- e. Cement, lime or other stabilization.
- f. Concrete and bituminous materials handling, production, and paving.
- g. Seeding, fertilizing, mulching and use of herbicides or insecticides.
- h. Contractor's own housekeeping items; haul roads; sanitary facilities; water supply; equipment fueling, servicing and cleaning; job clean up and disposal.

When the contractor submits his tentative progress schedule in accordance with 80-03, Prosecution and Progress, he shall also submit for acceptance of the Resident Project Representative, his schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing, grading, structures at watercourses, construction, and paving, and his proposed method of erosion control on haul roads and borrow pits and his plan for disposal of waste materials. No work shall be started until the erosion control schedules and methods of operations have been accepted by the Resident Project Representative.

All bituminous and Portland cement concrete proportioning plants shall meet the requirements of the rules of the Michigan Air Pollution Control Commission. The Contractor shall notify the Air Pollution Control Division, Michigan Department of Natural Resources, Lansing, in writing, as to the proposed location of any bituminous or concrete plant at least 2 weeks prior to the production of a mixture.

The following listed stipulations shall apply to this contract unless more restrictive ones are specified by the plans, contract provisions, laws, codes, ordinances, etc. Cost of pollution control shall be incidental to the appropriate work items unless otherwise specified.

1. Control of Water Pollution and Siltation.

- (a) All work of water pollution and siltation control is subject to inspection by the local governmental enforcing agent or the Department of Natural Resources.

(b) All applicable regulations of fish and wildlife agencies and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the contract.

(c) Construction operations shall be conducted in such manner as to reduce erosion to the practicable minimum and to prevent damaging siltation of water courses, streams, lakes or reservoirs. The surface area of erodible land, either on or off the airport site, exposed to the elements by clearing, grubbing or grading operations, including gravel pits, waste or disposal areas and haul roads, at any one time, for this contract, shall be subject to approval of the Resident Project Representative and the duration of such exposure prior to final trimming and finishing of the areas shall be held to the minimum practical. The Resident Project Representative shall have full authority to order the suspension of grading and other operations pending adequate and proper performance of trimming, finishing and maintenance work or to restrict the area of erodible land exposed to the elements.

(d) Materials used for permanent erosion control measures shall meet the requirements of the applicable specifications. Gravel or stone, similar to the coarse aggregate 6A shown in Supplemental Specification P-501, consisting of durable particles of rock and containing only negligible quantities of fines, shall be used for construction pads, haul roads and temporary roads in or across streams.

(e) Where called for on the plans, a stilling basin shall be constructed to prevent siltation in the stream from construction operations.

(f) The disturbance of lands and alters that are outside the limits of construction as staked is prohibited, except as found necessary and approved by the Resident Project Representative.

(g) The contractor shall conduct his work in such manner as to prevent the entry of fuels, oils, bituminous materials, chemicals, sewage or other harmful materials into streams, rivers, lakes or reservoirs.

(h) Water from aggregate washing or other operations containing sediment shall be treated by filtration, by use of a settling basin or other means to reduce the sediment content to a level acceptable to the local governmental enforcing agent or the Department of Natural Resources.

(i) All waterways shall be cleared as soon as practicable of false work, piling, debris or other obstructions placed during construction operations and not a part of the finished work. Care shall be taken during construction and removal of such barriers to minimize the muddying of a stream.

(j) The contractor shall care for the temporary erosion and siltation control measures during the period that the temporary measures are required and for the permanent erosion control measures until the contract has been completed and accepted. Such care shall consist of the repair of areas damaged by erosion, wind, fire or other causes.

(k) Permanent and temporary erosion control work that is damaged due to the contractor's operations or where the work required is attributed to the contractor's negligence, carelessness, or failure to install permanent controls at the proper time, shall be repaired at the contractor's expense.

2. Opening Burning of Combustible Wastes.

(a) The contractor shall obtain a burning permit from local authorities, where applicable, prior to any burning.

(b) All burning shall conform to the conditions of the permit, except that the conditions herein shall apply if they are more restrictive.

(c) No tires, oils (except atomized fuels applied by approved equipment), asphalt, paint, or coated metals shall be permitted in combustible waste piles.

(d) Burning will not be permitted within 1,000 feet of a residential or built-up area nor within 100 feet of any standing timber or flammable growth unless otherwise specified.

(e) Burning shall not be permitted unless the prevailing wind is away from a nearby town or built-up area.

(f) Burning shall not be permitted during a local air inversion or other climatic condition as would result in a pall of smoke over a nearby town or built-up area.

(g) Burning shall not be permitted when the danger of brush or forest fires is made known by Federal, State, or local officials.

(h) The size and number of fires shall be restricted to avoid the danger of brush or forest fires. Burning shall be done under surveillance of a watchman who shall have fire-fighting equipment and tools readily available.

3. Control of Other Pollutants

(a) Minimum possible areas of open grading, borrow or aggregate excavation shall be exposed at one time, consistent with the progress of the work.

(b) Grading areas shall be kept at proper moisture conditions.

(c) Sand or dust blows shall be temporarily mulched, with or without seeding, or otherwise controlled with stabilizing agents.

- (d) Temporary roads, haul routes, traffic or work areas shall be stabilized with dust palliatives, penetration asphalt, or wood chips or other measures.
- (e) Cements, fertilizers, chemicals, volatiles, etc. shall be stored in proper containers or with proper coverings to prevent accidental discharge into the air.
- (f) Aggregate bins, cement bins, and dry material batch trucks shall be properly covered to prevent loss of material to the air.
- (g) Drilling, grinding and sand blasting apparatus shall be equipped with water, chemical, or vacuum dust controlling systems.
- (h) Applications of chemicals and bitumen's shall be held to recommended systems.
- (i) Bituminous mixing plants shall be equipped with dust collectors as noted in the specifications.
- (j) Quarrying, batching, and mixing operations and the transfer of materials between trucks, bins, or stockpile shall be properly controlled to minimize dust diffusion.
- (k) When necessary, certain operations shall be delayed until proper wind or climatic conditions exist to dissipate or inhibit potential pollutants to the satisfaction of the Resident Project Representative.

Additional Details to Subcontracting of Contract Work

The term "Subcontracting" shall be understood to mean the arrangement with any party or parties to execute a part of the contract work. No subcontract will be issued unless the Subcontractor is prequalified by the Department to perform the classification of work proposed when applicable. The Contractor shall submit the subcontract cover page and line items to the Resident Project Representative for the administration of the contract, prior to the start of the work associated with the subcontract. It is understood and agreed that the Department's prequalification of the Subcontractor is for the benefit of the Department and is not for the benefit of the Contractor or any other person. The Department's prequalification is not a guarantee or warranty of the Subcontractor's ability to perform or complete the work subcontracted. The Contractor remains fully responsible for completion of the work in accordance with the contract as if no portion of it had been subcontracted.

It is expressly agreed and understood by the Contractor that a Subcontractor of the work to be performed under the contract shall perform with the Subcontractor's own organization, not less than 50 percent of the total value of the contract work sublet to it. It is the intent of the contract that this requirement is also applicable to and binding upon successive subcontracts.

The value of the work sublet will be determined by multiplying the number of units sublet of any contract item by the unit price as set forth in the contract. If any portion of a contract item is subcontracted, only that portion of the work to be performed by the subcontractor will be used for the purpose of determining the percentage of the total work subcontracted. Both the subdivision of the item sublet and the unit cost thereof shall be reasonable as determined by the consultant.

The contractor shall not sublet any portion of the contract, or of the work provided therein, except the furnishing of necessary materials, without the approval of the Resident Project Representative. Such approval shall not in any way relieve the contractor of full responsibility for the performance of the contract. The contractor shall not sell or assign any portion of the contract without the written consent of the Resident Project Representative.

If the contractor requires the subcontractor to furnish bonds, such bonds shall not reduce the amount of the bonds required to be furnished by the contractor.

The Resident Project Representative may direct the removal from the job forthwith of any subcontractor or his equipment operating in violation of these requirements, and any costs or damages thereby incurred are assumed by the contractor by the acceptance of the contract. It is further understood that the contractor's responsibilities in the performance of his contract, in case of an approved subcontract, are the same as if he had handled the work with his own organization.

APPENDIX A
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract; the contractor agrees as follows:

1. In accordance with Act. No. 453, Public Acts of 1976, the contractor hereby agrees 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 race, color, religion, national origin, age, sex, height, weight, or marital status. Further, in accordance with Act No. 220, Public Acts of 1976 as amended by Act No. 478, Public Acts of 1980, the contractor hereby agrees not to discriminate against an employee or applicant for employment tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants shall be regarded as a material breach of this contract.
2. The contractor hereby agrees that any and all subcontractors to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as in herein before set forth in section 1 of this Appendix.
3. The contractor will take affirmative action to insure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, sex, height, weight, marital status or disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to the following; employment, upgrading, demotion or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
4. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status or disability that is unrelated to the individuals ability to perform the duties of a particular job or position.
5. The contractor or his collective bargaining representative will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this appendix.
6. The contractor will comply with relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission which may be in effect prior to the taking of bids for any individual state project.
7. The contractor will furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission, said forms may also elicit information as to the practices, policies, program and employment statistics of each subcontractor as well as the contractor himself, and said contractor will permit access to his books, records, and accounts by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain compliance with this contract and relevant with rules, regulations, and orders of the Michigan Civil Rights Commission.
8. In the event that the Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this agreement, the Civil Rights Commission may, as a part of its order based upon such findings, certify said findings to the Administrative Board of the State of Michigan, which Administrative Board may order the cancellation of the contract found to have been violated, and/or declare the contractor ineligible for

future contracts with the state and its political and civil subdivisions, departments, and officers, and including the governing boards of institutions of higher education, until the contractor complies with all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Civil Rights Commission to participate in such proceedings.

9. The contractor will include, or incorporate by reference, the provisions of the forgoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Michigan Civil Rights Commission, and will provide in every subcontract or purchase order that said provisions will be binding upon each subcontractor or seller.

**The Civil Rights Commission referred to as the Michigan Civil Rights Commission*

MDOT SPECIAL PROVISION 2
REQUIREMENTS FOR DBE/ WBE
GENERAL REQUIREMENT FOR RECIPIENTS
Excerpts from USDOT Regulation 49 CFR, Part 26

1 of 5

26.5 What Do The Terms Used In This Part Mean? *(Replaces 23.5 and 23.62)

Insert the following portions:

Disadvantaged Business Enterprise or DBE means a for-profit small business concern -

- (1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and
- (2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

Small Business Concern means, with respect to firms seeking to participate as DBEs in DOT- assisted contracts, a small business concern as defined pursuant to section 3 of the Small Business Act and Small Business Administration regulations implementing it (13 CFR part 121) that also does not exceed the cap on average annual gross receipts specified in §26.65(b).

Socially and economically disadvantaged individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is -

- (1) Any individual who a recipient finds to be a socially and economically disadvantaged individual on a case-by-case basis.
- (2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - (i) "*Black Americans*," which includes persons having origins in any of the Black racial type groups of Africa;
 - (ii) "*Hispanic Americans*," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - (iii) "*Native Americans*," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
 - (iv) "*Asian-Pacific Americans* " which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U. S. Trust Territories of the Pacific Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
 - (v) "*Subcontinent Asian Americans*," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
 - (vi) *Women*;
 - (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

Tribally-owned concern means any concern at least 51 percent owned by an Indian tribe as defined in this section.

You refers to a recipient, unless a statement in the text of this part or the context requires otherwise (i.e., 'you must do XYZ means that recipients must do XYZ).

B. 26.1 What are the Objectives of this Part? *(Replaces 23.43)

This part seeks to achieve several objectives:

To ensure nondiscrimination in the award and administration of DOT-assisted contracts in the Department's highway, transit, and airport financial assistance programs;

- (a) To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;
- (b) To ensure that the Department's DBE program is narrowly tailored in accordance with applicable law;
- (c) To ensure that only firms that fully meet this part's eligibility standards are permitted to participate as DBEs;
- (d) To help remove barriers to the participation of DBEs in DOT-assisted contracts;
- (e) To assist the development of firms that can compete successfully in the marketplace outside the DBE program; and
- (f) To provide appropriate flexibility to recipients of Federal financial assistance in establishing and providing opportunities for DBEs.

26.3 To Whom Does this Part Apply? *(Replaces 23.43)

(a) If you are a recipient of any of the following types of funds, this part applies to you:

(1) Federal-aid highway funds authorized under Titles I (other than Part B) and V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Pub. L. 102-240, 105 Stat. 1914, or Titles 1, III, and V of the Transportation Equity Act for the 21st Century (TEA-21), Pub. L. 105-178, 112 Stat. 107.

(2) Federal transit funds authorized by Titles 1, III, V and VI of ISTEA, Pub. L. 102-240 or by Federal transit laws in Title 49, U.S. Code, or Titles I, III, and V of the TEA-21, Pub. L. 105-178.

(3) Airport funds authorized by 49 U.S.C. 47101, et seq.

(b) [Reserved]

(c) If you are letting a contract, and that contract is to be performed entirely outside the United States, its territories and possessions, Puerto Rico, Guam, or the Northern Marianas Islands, this part does not apply to the contract.

(d) If you are letting a contract in which DOT financial assistance does not participate, this part does not apply to the contract.

26.13 What Assurances Must Recipients and Contractors Make? *(Replaces 23.43)

(a) Each financial assistance agreement you sign with a DOT operating administration (or a primary recipient) must include the following assurance:

The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001

and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

Each contract you sign with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

C. 26.55 How is DBE Participation Counted Toward Goals? *(Replaces 23.47)

(a) When a DBE participates in a contract, you count only the value of the work actually performed by the DBE toward DBE goals.

(1) Count the entire amount of that portion of a construction contract (or other contract not covered by paragraph (a)(2) of this section) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).

(2) Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided you determine the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

(b) When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.

(c) Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.

(1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

(2) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, you must examine similar transactions, particularly those in which DBEs do not participate.

(3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not

performing a commercially useful function.

(4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (c)(3) of this section, the DBE may present evidence to rebut this presumption. You may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.

(5) Your decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to DOT.

(d) Use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

(1) The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(5) The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

(6) For purposes of this paragraph (d), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

(e) Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

(1)(i) If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this paragraph (e)(1), a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

(2)(i) If the materials or supplies are purchased from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(A) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(B) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph (e)(2)(ii) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(C) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph (e)(2).

(3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.

(f) If a firm is not currently certified as a DBE in accordance with the standards of subpart D of this part at the time of the execution of the contract, do not count the firm's participation toward any DBE goals, except as provided for in §26.87(i).

(g) Do not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward your overall goal.

(h) Do not count the participation of a DBE subcontractor toward the prime contractor's DBE achievements or your overall goal until the amount being counted toward the goal has been paid to the DBE.

D. 26.11 What Records Do Recipients Keep and Report? *(Replaces 23.49)

(a) [Reserved]

(b) You must continue to provide data about your DBE program to the Department as directed by DOT operating administrations.

(c) You must create and maintain a bidders list, consisting of all firms bidding on prime contracts and bidding or quoting subcontracts on DOT-assisted projects. For every firm, the following information must be included:

- (1) Firm name;
- (2) Firm address;
- (3) Firm's status as a DBE or non-DBE;
- (4) The age of the firm; and
- (5) The annual gross receipts of the firm.

**PRIME CONTRACTOR STATEMENT
OF DBE/MBE/WBE/HBO SUBCONTRACTOR PAYMENTS**

Information required in accordance with 49 CFR part 23.49 and the MEEBOC reporting requirements for procurement from DBE/MBE/WBE/HBO firms, to monitor the progress of the prime contractor in meeting contractual DBE obligations. Failure to provide this information may result in diminished prequalification rating of the prime contractor, or other remedies under contract.

SEE INSTRUCTIONS ON REVERSE

PRIME CONTRACTOR	PROJECT NO.	CONTROL SECTION	JOB NO.
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PERIOD COVERED	1 st Quarter (September 1 - November 30, 20____ 2 nd Quarter (December 1 - February 28/29, 20____	3 rd Quarter (March 1 - May 31, 20____ 4 th Quarter (June 1 - August 31, 20____	PROJECT COMPLETION FINAL ESTIMATE
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Certified DBE/MBE/WBE/HBO	Services/Work Classification	Total Contract	Cumulative Dollar Value of	Deduction	Actual Amount	DBE/MBE/WBE/HBO	Date

As the authorized representative of the above prime contractor, I state that, to the best of my knowledge, this information is true and accurate

CONTRACTOR'S AUTHORIZED REPRESENTATIVE (Signature)	TITLE	DATE
--	-------	------

FOR MDOT USE ONLY

COMMENTS:

RESIDENT/RESIDENT PROJECT REPRESENTATIVE (Signature)	DATE
--	------

146-R (12/90)

INSTRUCTIONS

PRIME CONTRACTOR or AUTHORIZED REPRESENTATIVE:

This statement reports the actual dollar amounts of the project cost earned by and paid to the DBE/MBE/WBE/HBO subcontractor. Complete and submit to the Resident/Resident Project Representative within 30 days of the end of the quarter, 90 days after project completion, and 30 days after the Resident Project Representative's submission of the final payment estimate.

For "Project No.", "Control Section", and "Job No.", use the numbers assigned by MDOT.

For "Service/Work Classification" report services performed by the subcontractor, listed by code, as described in Rule 51 of the Administrative Rule governing pre-qualifications of Bidders for Highway and Transportation Construction Work.

For "Contract Amount", report total amount of the contract between the prime contractor and the subcontractor.

For "Deductions": Report deductions made by the prime contractor to the subcontractor's Cumulative Dollar Value of Services Completed for retainage, bond or other fees, materials, services or equipment provided to the subcontractor according to mutual, prior agreement (documentation of such agreement may be required by MDOT).

For "Actual Amount Paid to Date", report cumulative actual payments made to the subcontractor for services completed.

Provide "DBE/MBE/WBE/HBO Authorized Signature" for project completion reports only.

Be sure to sign, title and date this statement.

MDOT RESIDENT/RESIDENT PROJECT REPRESENTATIVE:

Complete the "Comments" area, sign date and forward to Office of small Business Liaison within 7 days of receipt from prime contractor.

SPECIAL MDOT PROVISION 3
INSURANCE

The Contractor, prior to execution of the contract, shall file with the Sponsor, a Certificate or Certificates of Insurance showing that he/she has complied with the insurance requirements set forth in MDOT Special Provisions 1. This must be Michigan Department of Transportation Form 1304A, "Certificate of Insurance for Construction and Reconstruction of Michigan Department of Transportation Highway/Aeronautics Projects" (sample on next page).

PROOF OF INSURANCE FOR CONSTRUCTION AND RECONSTRUCTION OF MICHIGAN DEPARTMENT OF TRANSPORTATION HIGHWAY/AERONAUTICS PROJECTS

Information required by the Federal specifications for Highway construction and/or Act 327, P.A. of 1945 to verify insurance.

INSTRUCTIONS: Complete and return to MDOT-Awards@michigan.gov.

The subscribing insurance company certifies that insurance of the types and for limits of liability covering the work under contract with MDOT or airport owner has been obtained by the contractor named below.

Such insurance, here certified, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals of rules and rates, except (1) the insurance shall not be subject to the usual "x" - explosion, "c" - collapse or "u" - underground property damage exclusions.

NAME OF INSURED																																																																		
ADDRESS		CITY		STATE																																																														
TELEPHONE NO.		FAX NO.																																																																
<table border="1"> <thead> <tr> <th rowspan="2">TYPE OF INSURANCE</th> <th rowspan="2">POLICY NUMBER & NAME OF INSURANCE COMPANY (If more than one)</th> <th colspan="2">POLICY DATES (MM/DD/YY)</th> <th rowspan="2">LIMITS: Each Occurrence: \$1,000,000 Aggregate: \$2,000,000 BODILY INJURY AND PROPERTY DAMAGE LIABILITY</th> </tr> <tr> <th>EFFECTIVE</th> <th>EXPIRATION</th> </tr> </thead> <tbody> <tr> <td>General Liability</td> <td rowspan="6"></td> <td rowspan="6"></td> <td rowspan="6"></td> <td>General Aggregate</td> </tr> <tr> <td>Commercial General Liability</td> <td>Prods. comp/ops Aggregate</td> </tr> <tr> <td>Claims Made Occurrence</td> <td>Personal Advertising Inj.</td> </tr> <tr> <td>\$_____ P.D. Deductible</td> <td>Each Occurrence</td> </tr> <tr> <td>☐ XCU Exclusion</td> <td>Fire Damage (any one fire)</td> </tr> <tr> <td>☐ Contractual Exclusion</td> <td>Medical Exp. (any one person)</td> </tr> <tr> <td>☐ AUTOMOTIVE LIABILITY</td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td>Combined Single Limit (Minimum \$2,000,000.00)</td> </tr> <tr> <td>☐ Any Auto</td> <td>Bodily Injury (per person) (Minimum \$500,000.00)</td> </tr> <tr> <td>☐ All Owned Autos</td> <td>Bodily Injury (per accident) (Minimum \$1,000,000.00)</td> </tr> <tr> <td>☐ Scheduled Autos</td> <td>Property Damage (Minimum \$1,000,000.00)</td> </tr> <tr> <td>☐ Hired Autos</td> <td></td> </tr> <tr> <td>☐ Non-Owned Autos</td> <td></td> </tr> <tr> <td>☐ Garage Liability</td> <td></td> </tr> <tr> <td>☐ Umbrella</td> <td>Each Occurrence</td> </tr> <tr> <td rowspan="4">☐ Excess Liability Other Than Umbrella</td> <td rowspan="4"></td> <td rowspan="4"></td> <td rowspan="4"></td> <td>Aggregate</td> </tr> <tr> <td>Each Occurrence</td> </tr> <tr> <td>Each Occurrence</td> </tr> <tr> <td>Aggregate</td> </tr> <tr> <td>☐ WORKERS COMPENSATION AND EMPLOYERS LIABILITY</td> <td rowspan="4"></td> <td rowspan="4"></td> <td rowspan="4"></td> <td>STATUTORY</td> </tr> <tr> <td>\$ (Each Accident)</td> </tr> <tr> <td>\$ (Disease - Policy Limit)</td> </tr> <tr> <td>\$ (Disease - Each Empl.)</td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (If more than one)	POLICY DATES (MM/DD/YY)		LIMITS: Each Occurrence: \$1,000,000 Aggregate: \$2,000,000 BODILY INJURY AND PROPERTY DAMAGE LIABILITY	EFFECTIVE	EXPIRATION	General Liability				General Aggregate	Commercial General Liability	Prods. comp/ops Aggregate	Claims Made Occurrence	Personal Advertising Inj.	\$_____ P.D. Deductible	Each Occurrence	☐ XCU Exclusion	Fire Damage (any one fire)	☐ Contractual Exclusion	Medical Exp. (any one person)	☐ AUTOMOTIVE LIABILITY				Combined Single Limit (Minimum \$2,000,000.00)	☐ Any Auto	Bodily Injury (per person) (Minimum \$500,000.00)	☐ All Owned Autos	Bodily Injury (per accident) (Minimum \$1,000,000.00)	☐ Scheduled Autos	Property Damage (Minimum \$1,000,000.00)	☐ Hired Autos		☐ Non-Owned Autos		☐ Garage Liability		☐ Umbrella	Each Occurrence	☐ Excess Liability Other Than Umbrella				Aggregate	Each Occurrence	Each Occurrence	Aggregate	☐ WORKERS COMPENSATION AND EMPLOYERS LIABILITY				STATUTORY	\$ (Each Accident)	\$ (Disease - Policy Limit)	\$ (Disease - Each Empl.)	Other				
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SPECIAL MDOT PROVISION 4
BONDING

In addition to the security required by Act 213, P.A. 1963, and Section 30-05 of the General Provisions, the successful bidder on this project shall furnish a satisfactory lien bond written by the same surety as the standard statutory performance bond, in an amount not less than the total contract price, which additional bond shall secure the payment of all claims:

1. Lienable under the terms of said statute:
2. Notice of which is not given by subcontractors within the statutory period, but
 - (a) Notice of which is not given by subcontractors within sixty (60) days after notice of the payment of the final estimate or post final estimate having been made by the Department of Transportation; or
 - (b) In the case of a supplier to the contractor or a subcontractor, within 120 days after the materials are last furnished.

Said addition bond shall conform with the terms of said statute in all respects except the time within which the notice of lien claims must be given, as provided herein.

SPECIAL MDOT PROVISION 5
W-9

In order for payments to be issued through the Michigan Department of Transportation the designated low bidder, prior to award of the contract, shall file with the contracting office a 'Request for Taxpayer Identification Number and Certification.' This must be US Department of Treasury, Internal Revenue Service Form W-9. Following on the next page is the W-9, which must be completed and returned to the contracting office prior to the award of this contract.

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. ☐ Individual/sole proprietor or single-member LLC ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. ☐ Other (see instructions) ►	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ (Applies to accounts maintained outside the U.S.)
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									
				-			-		
or									
Employer identification number									
				-					

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ►	Date ►
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note: ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a) J—

A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.SSA.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/Businesses and clicking on Employer Identification Number (EIN) under Starting a Business. Go to www.irs.gov/Forms to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to www.irs.gov/OrderForms to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.

You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor ²
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
6. Sole proprietorship or disregarded entity owned by an individual	The owner ³
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity ⁴
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

***Note:** The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at spam@uce.gov or report them at www.ftc.gov/complaint. You can contact the FTC at www.ftc.gov/idtheft or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see www.IdentityTheft.gov and Pub. 5027.

Visit www.irs.gov/IdentityTheft to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

SPECIAL MDOT PROVISION 6
PROMPT PAYMENT

The prime Contractor agrees to pay each subcontractor for the satisfactory completion of work associated with the subcontractor no later than ten (10) calendar days from the receipt of each payment the prime Contractor receives from the Department. The prime Contractor agrees further to return retainage payments to each subcontractor within ten (10) calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from these time frames may occur only upon receipt of written approval from the Resident Project Representative. These requirements are also applicable to all sub-tier subcontractors and shall be made a part of all subcontract agreements.

This prompt payment provision is a requirement of 49 CFR §26.29 and does not confer third-party beneficiary right or other direct right to a subcontractor against the Department. This provision applies to both DBE and non-DBE subcontractors.

- A. Satisfactory Completion. Satisfactory completion is defined for the purpose of this prompt payment provision as when:
 - 1. The Resident Project Representative finds the work completed in accordance with the contract, plans and specifications;
 - 2. All required paperwork, including material certifications, payrolls, etc., has been received and approved by the Resident Project Representative; and,
 - 3. The Resident Project Representative has inspected and approved the work and has determined the final quantities.
- B. Non-Payment Claims. All notifications of failure to meet prompt payment provisions shall be referred by the subcontractor to the prime Contractor and must be made in writing within thirty (30) calendar days of the date the payment was to be received.

The prime Contractor must include in all subcontract agreements notice to subcontractors of their right to prompt payment and return of retainage under 49 CFR §26.29

The prime Contractor must include in all subcontracts, language providing that the Contractor will use an approved alternative dispute resolution process to resolve prompt payment differences. The Department will provide the parties with a list of approved mediators and arbitrators. The parties must agree on a mediator or arbitrator within twenty-five (25) calendar days after a written complaint has been sent by the subcontractor. The cost of mediation or arbitration will be borne by the parties involved or as determined by the mediator. Qualified costs of mediation, for certified DBE's, will be paid by the Department based on current procedures. The DBE must contact the Office of Equal Opportunity for information on current procedures and to receive reimbursement.

Copies of all documents related to prompt payment claims will be provided to the Resident Project Representative to be included in the project files.

Continued failure of the prime Contractor to comply with prompt payment provisions may result in sanctions, which shall be applied progressively. Sanctions may include but are not limited to: a review of the firm by representatives of the Department as appropriate for the type of work performed by the Prime Contractor; reduction of prequalification ratings; and/or withdrawal of bidding privileges.

MDOT SPECIAL PROVISION 7
CERTIFIED PAYROLLS

- A. Certified weekly payrolls covering the contractor's and all subcontractor's work forces shall be submitted to the Resident Project Representative along with the Weekly Employment and OJT Report (form 1199) on all federally funded projects, except these requirements shall not apply to any contract of \$2,000 or less, or airport sponsor negotiated projects in accordance with CFR 29, Part 3.
- B. Certified weekly payrolls covering the contractor's and the subcontractor's work force will not be required of STATE FUNDED PROJECTS. However, the weekly employment and OJT Report (form 1199) shall be submitted to the Resident Project Representative on all STATE FUNDED PROJECTS of \$10,000 or more and employing three or more people.
- C. On those contracts involving two or more projects and job numbers and the type of funding is mixed, the necessity for submission of payrolls will be determined on a contract by contract basis. If the Department puts only the wage rates issued by the US Department of Labor in the proposal, payrolls must be submitted on all projects and the federal requirements apply. If the Department includes both the wage rates issued by the US Department of Labor and the Michigan Department of Labor, then the wage requirements apply to the respective federally funded and non-federally funded project.

All payrolls submitted shall identify minority and female employees by preceding the name with an ethnic code notation. Ethnic code groups are (B) Black, (H) Hispanic, (NA) American Indian or Alaskan Eskimo, and (A) Asian or Pacific Islander. Use (F) for female.

All payrolls shall also identify each employee's work classification, including level, i.e., Laborer Group 1, 2, etc., Operating Engineer Group 1, 2, etc., Truck Driver under 8 cu. yds., etc.

Payrolls on federally funded projects are used for determining compliance with federal wage standard provisions.

These requirements are supplemental to other required contract provisions carried in this bid proposal.

SPECIAL MDOT PROVISION 8
FOR
INDUSTRIAL BY-PRODUCTS AND BENEFICIAL RE-USE

Description. For this project, regardless of the application, the use of industrial by-products, covered in 2014 PA 178, is prohibited unless the use and application of a particular material is covered elsewhere in the contract.

END OF SECTION 007303

SECTION 007304

SPECIAL PROVISIONS - BATTLE CREEK

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CONTRACTOR INSURANCE

- a. The Contractor shall at the time of execution of this contract, file with the City the Certificate of Insurance, which shall cover all of the insurance as required herein, including evidence of payment of premiums thereon, and the policy or policies or insurance covering said City and their officers, agents and employees. Each such policy and certificate shall be satisfactory to the City. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from all operations under this Contract. The contractor shall maintain insurances in force at all times during the term of this agreement at the minimum amounts and types as indicated.

Coverage Afforded

Limits of Liability

Workers' Compensation:		\$ 100,000 or statutory limit
Commercial General Liability:	Bodily Injury	\$1,000,000 each occurrence
(including XCU if appropriate)	Property Damage	\$1,000,000 each occurrence
	or Combined Single Limit	\$2,000,000
Automobile Liability:	Bodily Injury	\$ 300,000 each person
	Liability	\$ 500,000 each occurrence
	Property Damage	\$ 500,000
	or Combined Single Limit	\$ 500,000

- b. The City of Battle Creek shall be listed as an additional insured on general liability coverage and shall be provided with a Certificate of Insurance that reflects this additional insured status. A 30-day notice of cancellation or material change shall be provided to the City and so noted on the Certificate of Insurance. All certificates and notices shall be sent to City of Battle Creek, 10 N. Division, Suite 216, Battle Creek, MI 49014.

END OF SECTION 007304

SECTION 007346

WAGE DETERMINATION SCHEDULE

Bidders shall use a reasonable Wage Rate for classifications needed for the work but not found in General Decision Number MI20240079 when assembling their Bid.

A post-award Conformance in accordance with 29CFR 5.5 (a) (1) (ii) (A) shall be completed by the winning Bidder to add needed but missing classifications to the project.

See the attached Memorandum Number 213 from the U.S. Department of Labor, Wage, and Hour Division.

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MAR 22 2013

MEMORANDUM NO. 213

TO: ALL CONTRACTING AGENCIES OF THE FEDERAL
GOVERNMENT AND THE DISTRICT OF COLUMBIA

FROM: 
MARY BETH MAXWELL
Acting Deputy Administrator

SUBJECT: Application of the Davis-Bacon and Related Acts requirement that wage rates for additional classifications, when "conformed" to an existing wage determination, bear a "reasonable relationship" to the wage rates in that wage determination

This Memorandum is notification from the Department of Labor's Wage and Hour Division (WHD) of the proper application of the Davis-Bacon and Related Acts (DBRA) requirements for wage rates for additional classifications that are "conformed" to an existing wage determination by agency contracting officers. The regulations at 29 C.F.R. § 5.5(a)(1)(ii)(A) provide that contracting officers shall approve an additional classification and its proposed wage rate in conformance with an existing wage determination only when the work to be performed by the proposed classification is not performed by a classification in the wage determination and the proposed wage rate bears a "reasonable relationship" to the wages rates in the wage determination. Although this Memorandum primarily focuses on the "reasonable relationship" requirement, it is essential at the threshold to reiterate that a conformance is not appropriate when the work of the proposed classification is already performed by a classification on the wage determination. The conformance process is narrow in scope and has the limited purpose of establishing a new classification when it is necessary to do so because work needed to perform the contract is not performed by an existing classification. *See Cambridge Plaza*, ARB Case No. 07-102 (ARB Oct. 29, 2009). Accordingly, the WHD will not add a new classification through a conformance action unless the first criterion for issuance of a conformance is satisfied, i.e., the proposed work in question is not performed by any classification in the existing wage determination. 29 C.F.R. § 5.5(a)(1)(ii)(A)(1).

In those circumstances in which the duties of the proposed classification are not performed by any classification in the existing wage determination, the WHD will consider whether the proposed wage rate bears a "reasonable relationship" to the wage rates in the wage determination. In the past, WHD has generally approved proposed wage rates for a conformed skilled craft and a power equipment operator when such rates were not less than the rate for the lowest classification in the respective category on the contract wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. In keeping with the remedial purpose of the DBRA and the governing

regulations, the wage rate of the lowest skilled craft, laborer, power equipment operator, or truck driver classification on the contract wage determination has no longer been an automatic benchmark when reviewing conformance requests. WHD's approach of not using the lowest wage rate as a benchmark has been progressively implemented over the last year.

The Conformance Process

In accordance with 29 C.F.R. § 5.5(a)(1)(ii)(A), the contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and a wage rate (including fringe benefits) for the classification only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

Further, if the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency agree on the classification and wage rate proposed, a report of the action taken is sent by the contracting officer to the Administrator of WHD for approval, denial, or modification. The Administrator (or an authorized representative) shall respond within 30 days of receipt, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(B). In the event that the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency do not agree on the classification and wage rate proposed, the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator of WHD for determination. The Administrator (or an authorized representative) shall issue a determination within 30 days of receipt and so advise the contracting officer, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(C).

"Reasonable Relationship"

WHD previously typically approved conformance requests from contracting officers for wage rates (including fringe benefits) for skilled classifications and power equipment operators by automatically using as a benchmark the lowest rate for a skilled classification or power equipment operator, respectively, in the applicable wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. WHD has concluded, however, that it better reflects the regulatory requirement that "the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination" to consider the entirety of the rates within the relevant category on the wage determination and to not generally use as a benchmark the lowest rate within that category. The regulation at 29 C.F.R. §

5.5(a)(1)(ii)(A)(3) requires that the proposed wage rate bear a reasonable relationship to the “wage rates” on the wage determination and not to a particular rate or the lowest rate.

The category in which the requested additional classification falls is relevant to the reasonable relationship analysis. As background, classifications in wage determinations fall into four general categories: skilled crafts, laborers, power equipment operators, and truck drivers. To determine a “reasonable relationship,” the requested additional classification is compared to the classifications on the applicable wage determination within the same category. A proposed skilled craft classification is compared to skilled classifications in the wage determination; a proposed laborer classification is compared to existing laborer classifications; a proposed power equipment operator classification is compared to existing power equipment operator classifications; and a proposed truck driver classification is compared to existing truck driver classifications. See *Mistick Construction*, ARB Case No. 02-004 (June 24, 2003); *Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995).¹ Thus, when considering a conformance request for a skilled classification, WHD generally considers the entirety of the rates for the skilled classifications on the applicable wage determination and looks to where the proposed wage rate falls within the rates listed on the wage determination. Occasionally, however, a wage determination may contain some wage rates for laborer classifications that are higher than some wage rates for the skilled classifications or power equipment operators (likely because the laborers’ rates reflect union prevailing rates and the skilled crafts’ or power equipment operators’ rates reflect weighted average prevailing rates). On such occasions, the contracting officer should look to those skilled classifications whose rates are higher than the laborer classifications’ rates. See *M.Z. Contractors Co.*, WAB Case No. 92-06 (Aug. 25, 1992). If, however, most of the skilled classifications’ or power equipment operators’ rates are lower than the laborer classifications’ rates, then it may be reasonable to propose a rate that reflects the skilled classifications’ rates even if they are lower than the laborer classifications’ rates.

Additionally, whether the wage rates in the applicable category (skilled craft, laborer, power equipment operator, truck driver) in the wage determination are predominantly union prevailing wage rates or predominantly weighted average prevailing wage rates should be considered when proposing rates for an additional classification. For example, if a wage determination contains predominantly union prevailing wage rates for skilled classifications, it typically would be appropriate to look to the union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. Conversely, if a wage determination contains predominantly weighted average prevailing wage rates for skilled classifications, it typically would be appropriate to look to the weighted average/non-union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. If the wage rates in the applicable category are roughly half union prevailing rates and half weighted average prevailing rates, it would typically be appropriate to look to the lowest union rate and the highest weighted average rate (assuming the union rates are higher than the weighted average rates) when proposing a wage rate.

¹ Copies of Administrative Review Board (ARB) and Wage Appeals Board (WAB) decisions can be obtained from: www.oalj.dol.gov/libdba.htm.

While the majority of conformance requests are within the skilled classification category, the governing regulations and the principles outlined in this Memorandum apply to the other categories of workers – laborers, power equipment operators, and truck drivers. To meet the “reasonable relationship” test for a conformed power equipment operator or truck driver classification, the proposed wage rate should bear a reasonable relationship to the entirety of rates within the respective classification, and in particular to the union or weighted average rates in the classification (assuming union or weighted average rates prevail for the classification). When a conformance for a laborer classification is requested, WHD generally continues to use the common laborer rate already existing in the wage determination as a benchmark for the proposed rate.

Each conformance request and corresponding wage determination involves particular circumstances and therefore should be evaluated as such. The full range of wage rates on the wage determination for the appropriate category should be reviewed in the manner discussed above. When seeking conformed classifications and wage rates, the contractor and the contracting officer should not rely on a wage determination or conformance granted to another party regardless of the similarity of the work in question. *See, e.g., Inland Waters Pollution Control, Inc.*, WAB Case No. 94-12 (Sept. 30, 1994). Moreover, the contractor and the contracting officer should not prospectively rely on WHD’s prior approval of rates for application to a contract performed at the same location. *See E&M Sales, Inc.*, WAB Case No. 91-17 (Oct. 4, 1991). Although atypical, use of the “lowest skilled” rate may of course be appropriate when that rate in fact bears a reasonable relationship to the wage rates contained in the wage determination for the appropriate category. *See, e.g., Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995) (conformed wage rate, which equaled lowest skilled rate on wage determination, was reasonable).

In sum, contracting agencies should take the following steps when proposing a wage rate for a classification to be conformed to an existing wage determination:

- First, the contracting agency should determine the category (skilled crafts, laborers, power equipment operators, or truck drivers) of the classification which is being conformed.
- Second, the contracting agency should determine for that category whether union or weighted average/non-union sector rates prevail in the existing wage determination.
- Third, after reviewing the entirety of the rates within the appropriate sector in the applicable category, the contracting agency should determine a rate that bears a reasonable relationship to those rates on the wage determination.
- Fourth, the contracting agency should determine whether any of the considerations identified in this Memorandum apply (or whether any other relevant considerations apply). For example, if the classification being conformed is a skilled classification and some of the wage rates for skilled classifications in the wage determination are lower than the rates for laborer classifications, then the contracting agency should use those existing skilled classification rates that are higher than the laborer rates to determine the

proposed rate. And if the classification which is being conformed is a laborer classification, the proposed wage rate should generally use the existing common laborer wage rate as a benchmark.

Conclusion

The WHD Administrator has historically maintained broad discretion under the regulations to make determinations regarding proposed wage rates for additional classifications that are conformed to existing wage determinations. This broad discretion has been confirmed by the ARB and its predecessors, as illustrated by the decisions cited in this Memorandum, among others. In exercising that discretion, WHD ensures that wage rates (including fringe benefits) for the classification to be conformed bear a reasonable relationship to the range of rates for the classifications in the wage determination in the same category (skilled classifications, power equipment operators, laborers, and truck drivers), and not automatically to the lowest rate in the applicable category. Consistent with the governing regulations, contracting agencies should ensure that they request wage rates (including fringe benefits) for additional classifications in accordance with the principles set forth in this Memorandum. By following the guidance in this AAM, contracting agencies and contractors will benefit by receiving approvals from WHD that ensure consistency in conformed wage rates and increase efficiencies in government.

In conjunction with the guidance provided in this AAM, WHD has posted on www.dol.gov/whd/govcontracts/dbra.htm a series of frequently asked questions that include examples which will provide additional guidance regarding the reasonable relationship requirement in the conformance process. WHD also is updating its Prevailing Wage Resource Book and will provide compliance assistance on DBRA conformances at future Prevailing Wage Conferences. In addition, WHD's Branch of Construction Wage Determinations is available to assist with any questions.

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"General Decision Number: MI20240079 04/19/2024

Superseded General Decision Number: MI20230079

State: Michigan

Construction Type: Building

County: Calhoun County in Michigan.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker

protections under the Executive Orders is available at
<http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	01/19/2024
2	04/05/2024
3	04/19/2024

ASBE0047-002 07/01/2023

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 36.62	19.78

BOIL0169-001 01/01/2024

	Rates	Fringes
BOILERMAKER.....	\$ 39.65	35.68

BRMI0009-031 08/01/2023

	Rates	Fringes
BRICKLAYER.....	\$ 33.95	23.52
TILE FINISHER.....	\$ 26.35	17.90
TILE SETTER.....	\$ 24.30	23.77

CARP0525-003 06/01/2023

	Rates	Fringes
CARPENTER, Includes Acoustical Ceiling Installation, Drywall Hanging, and Form Work.....	\$ 28.29	21.42

CARP1102-001 06/01/2023

	Rates	Fringes
MILLWRIGHT.....	\$ 32.00	26.52

ELEC0445-011 05/31/2023

	Rates	Fringes
ELECTRICIAN.....	\$ 35.97	24.49

ENGI0324-002 06/01/2023

	Rates	Fringes
OPERATOR: Power Equipment		

GROUP 1.....	\$ 45.48	25.25
GROUP 2.....	\$ 42.18	25.25
GROUP 3.....	\$ 40.50	25.25
GROUP 4.....	\$ 37.82	25.25
GROUP 5.....	\$ 37.82	25.25
GROUP 6.....	\$ 31.96	25.25
GROUP 7.....	\$ 29.48	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50
per hour above the group 1 rate.

Crane operator with main boom and jib 400' or longer: \$3.00
per hour above the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of
July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or
220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or
longer, tower crane, gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator/Trackhoe; Crane; Concrete Pump;
Grader/Blade; Highlift; Hoist; Loader; Roller; Scraper;
Stiff Leg Derrick; Trencher

GROUP 4: Bobcat/Skid Loader; Broom/Sweeper; Fork Truck (over
20' lift)

GROUP 5: Boom Truck (non-swinging)

GROUP 6: Fork Truck (20' lift and under for masonry work)

GROUP 7: Oiler

IRON0025-005 06/01/2022

	Rates	Fringes
IRONWORKER (REINFORCING).....	\$ 31.43	34.77
IRONWORKER (STRUCTURAL).....	\$ 34.50	38.44

LABO0355-022 06/01/2022

	Rates	Fringes
LABORER		
Common or General; Grade		
Checker; Mason Tender -		
Brick; Mason Tender -		
Cement/Concrete;		
Sandblaster.....	\$ 26.70	12.95

Pipelayer.....	\$ 20.34	12.85

PAIN0312-002 06/01/2023		
	Rates	Fringes
PAINTER: Brush and Roller.....	\$ 23.74	13.35
PAINTER: Drywall		
Finishing/Taping.....	\$ 23.74	13.35
PAINTER: Spray.....	\$ 26.18	15.86

PLAS0016-007 04/01/2014		
	Rates	Fringes
PLASTERER.....	\$ 21.18	12.43

PLUM0333-006 06/01/2023		
	Rates	Fringes
PIPEFITTER, Includes HVAC		
Pipe and Unit Installation.....	\$ 43.29	24.94
PLUMBER, Excludes HVAC Pipe		
and Unit Installation.....	\$ 43.29	24.94
FOOTNOTE:		
Paid Holidays: Memorial Day, Independence Day and Labor Day, if the employee works the work day preceding and following the holiday unless proven illness or injury prevents the employee from working.		

ROOF0070-002 06/01/2022		
	Rates	Fringes
ROOFER.....	\$ 30.03	16.84

* SFMI0669-001 01/01/2024		
	Rates	Fringes
SPRINKLER FITTER (Fire		
Sprinklers).....	\$ 41.34	26.80

SHEE0007-004 05/01/2023		
	Rates	Fringes
SHEET METAL WORKER (Including		
HVAC Duct Installation;		
Excluding HVAC System		
Installation).....	\$ 38.09	19.66

* SUMI2011-004 02/01/2011		

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 25.23	1.80
IRONWORKER, ORNAMENTAL.....	\$ 18.48	7.93
LABORER: Landscape & Irrigation.....	\$ 10.38 **	0.50
OPERATOR: Bulldozer.....	\$ 19.68	6.64
OPERATOR: Compactor.....	\$ 17.68	6.70
OPERATOR: Tractor.....	\$ 19.10	8.48
TRUCK DRIVER, Includes Dump and Tandem Truck.....	\$ 17.26	11.42
TRUCK DRIVER: Lowboy Truck.....	\$ 14.50 **	0.44
TRUCK DRIVER: Tractor Haul Truck.....	\$ 13.57 **	1.18

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

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

Wage and Hour Administrator

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

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

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

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

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

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END OF GENERAL DECISION"

END OF SECTION 007346

SECTION 007383

PROTEST PROCEDURES - PRE-BID AND PRE-AWARD

1.01 PROTEST CRITERIA

- A. All protested/disputed item(s) shall be detailed in writing and include justification or grounds for protest. The protest shall include the name, street address, electronic mail address, and telephone number of the protester.
- B. Pre-Bid Protest: If a protester formally disputes the procurement because the bid solicitation is allegedly defective, the protest shall be submitted in writing to both the Sponsor and Engineer no later than seven (7) calendar days prior to the bid due date and time. Late submittal of a protest regarding improper bid solicitations may result in rejection of the protest without action by the Sponsor, per FAA policy.
- C. Pre-Award Protest: If a protester formally disputes award of the project because of alleged improper bid evaluation, the protest shall be submitted in writing to both the Sponsor and Engineer no later than ten (10) calendar days following the issuance of the Recommendation to Award. Late submittal of a protest regarding improper bid evaluation may result in rejection of the protest without action by the Sponsor, per FAA policy.
- D. Post-Award Protest: No protest received after an award has been made will be considered.
- E. Protests shall be submitted in writing to each of the following locations.
 - 1. Chris Huff, Purchasing Agent, City of Battle Creek, MI, 10 North Division Street, Suite 216, Battle Creek, MI 49014.
 - 2. Tim Close, PE, SE, Program Manager, Mead & Hunt, Inc., 2440 Deming Way, Middleton, WI 53562.
- F. All protests must be conspicuously marked and identified that the correspondence contains a bid protest. Hard copies meeting the deadlines and all requirements should therefore also be submitted. Without this acknowledgement the protester must conclude that the protest has not been received.

1.02 SPONSOR RESPONSE

- A. The Sponsor will notify the FAA upon receipt of a protest. The Sponsor will respond in detail to each substantive issue raised by a protest submitted in strict accordance with these written requirements.
- B. The Sponsor will issue its written decision to a protest no more than ten (10) business days from the day the written protest was received.

- C. Items addressed by addenda after a bid protest that address the protested item(s) will not be allowed to be considered for dispute. A protest or specific protest allegations may be dismissed any time sufficient information is obtained by the Sponsor warranting dismissal. The Sponsor's determination is final.
- D. If a protester believes that the City of Battle Creek has not followed these protest procedures, the protester has ten (10) business days from the alleged infraction to file a subsequent protest with the City of Battle Creek or federal granting agency if applicable.

1.03 FEDERAL AVIATION ADMINISTRATION RESPONSE

- A. Federal aviation Administration (FAA) will only entertain protests that involve (1) a violation of Federal laws or regulations and/or (2) allegations that the Sponsor's written protest procedures were not followed. Any information contained within a protest will become public record subject to disclosure under the Freedom of Information Act. The information will not be treated as confidential.

END OF SECTION 007383

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Project information.
- 2. Work covered by Contract Documents.
- 3. Phased construction.
- 4. Work performed by Owner.
- 5. Coordination with occupants.
- 6. Work restrictions.
- 7. Specification and Drawing conventions.
- 8. Miscellaneous provisions.

- B. Related Requirements:

- 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification:

- 1. Air Traffic Control Tower Rehabilitation
- 2. Battle Creek Executive Airport (BTL)
- 3. 15551 South Airport Road
- 4. Battle Creek, MI 49015

- B. Owner:

- 1. City of Battle Creek, Michigan
- 2. 10 North Division Street
- 3. Battle Creek, MI 49014

- C. Project Manager:

- 1. Mead & Hunt, Inc.
- 2. 2440 Deming Way
- 3. Middleton, WI 53562

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
1. All Work associated with the crack repair of the existing precast concrete shaft of the Air Traffic Control Tower (ATCT).
 2. All work associated with the removal and replacement of ATCT electronic equipment located in the ATCT Cab and ATCT Equipment Room. ATCT electronic equipment to be replaced includes but is not limited to the following.
 - a. CM200/CM300 Series Mobile 2-way Radios.
 - b. Voice Communications Switching System.
 - c. DV Recorder.
 - d. Back-up Weather Sensors.
 - e. (2) Light Guns.
 3. All Work associated with the installation of waterproofing protection at the precast concrete shaft of the ATCT.
 4. The following Work associated with the Base Building and sidewalk.
 - a. Concrete Sidewalk repair.
 - b. Cove Sealant Replacement
 - c. Wall Expansion Joint
 - d. Reseal Reglet Flashing
- B. Type of Contract:
1. Project will be constructed under a single prime contract.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
1. Limits on Use of Site: Confine construction operations to areas designated in the Construction Safety Phasing Plan (CSCPP).
 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 WORK RESTRICTIONS

- A. Comply with restrictions on Construction Safety Phasing Plan.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- E. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- F. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
 - 1. Maintain list of approved screened personnel with Owner's representative.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 - 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 - 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 011015 - EXTERIOR IMPROVEMENT WORK ITEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division-1 Specification sections, apply to work of this section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Description of Work Items associated with the exterior improvements.
 - 2. WI is the abbreviation for Work Item used throughout this specification.

PART 2 - WORK ITEMS

2.1 WI 60.1: MOBILIZATION

- A. Scope of Work
 - 1. Work consists of coordinating, scheduling, obtaining, and assembling at construction site all equipment, materials, permits, supplies, labor and other essentials and incidentals necessary to perform Work defined in this Contract.
 - 2. Upon completion of the work and fulfillment of all project requirements to perform Work defined in its Contract the Contractor shall demobilize and make the site ready for Owner's occupancy.

2.2 WI 60.2: SCAFFOLDING

- A. Scope of Work
 - 1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to provide, erect, operate, maintain, and remove fixed or suspended scaffolding, work platforms/ lifts and/or other similar equipment necessary to access exterior work areas as needed to complete work outlined in these construction documents.
- B. Materials
 - 1. Where suspended scaffolds are used, contractor shall employ an outrigger support system that does not bear on the parapet wall or roof edges.
 - 2. Parapet hooks/clamps shall not be used.

3. The contractor is responsible for distributing the staging and support system loads to the roof/steel platform in a manner which will not damage any part of the roof/platform system or overload the roof structural elements.
4. Suspended scaffolds and/or buckets shall be of the motorized type (no rope stages allowed), capable of handling labor, equipment and material loads required for the project.
5. Electrical system shall be checked for voltage from along the power cords for power supply. Special power supply may be needed to assure uninterrupted services.
6. Suitable existing electrical power supply/connection for construction work is not guaranteed by Owner.

C. Execution

1. Contractor shall verify and provide documentation that verified erection, maintenance, and removal of scaffolding (fixed or moveable), and all rigging is in accordance with OSHA standards.
2. Contractor personnel erecting, operating, maintaining and removal scaffold and rigging equipment shall be certified/trained according to current standards of the scaffold and construction industry.
3. Contractor shall submit a detailed action plan for their scaffolding (erection, maintenance, and removal) prior to proceeding.
4. Independent lifelines shall be provided for every person working on suspended scaffolding, per scaffold industry standards. Lifelines shall not be secured to the same points used for rigging connections.

2.3 WI 70.1: SUPPLEMENTAL WALL ANCHORS

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to install post-installed bent plate connections between the existing steel column and insulated precast wall panels.
2. Refer to Detail for Work Item 70.1 for specific requirements.

B. Materials

1. Existing building wall patch material per Section "Concrete Repair Materials."
2. Steel plate per detail and General Notes.
3. Post-installed hardware per detail 70.1.

C. Execution

1. Restore existing precast wall panel to plumb condition per W.I. 70.1.
2. Locate area of post-installed reinforcement and scan existing structure prior to drilling. Do not damage existing embedded reinforcement/plate.
3. Install bent plate connections to top of precast wall panel or below existing connection per detail 70.1. Re-position existing wall panel to original as-built condition as required by re-tighten bolt connections.
4. Re-coat fireproofing materials to match diagonal adjacent after work is completed and according to Owner requirements.

2.4 WI 71.1: PRECAST WALL PANEL REPAIR - PARTIAL DEPTH

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, bracing, and incidentals necessary to locate and remove delaminated, unsound concrete from concrete precast wall panels, prepare cavities, and install patching materials to restore concrete precast wall panels to original condition and appearance. Refer to Detail 71.1 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Materials for repairs shall be as specified in Section "Concrete Repair Materials."

C. Execution

1. Contractor shall locate and mark all work areas as specified in Section "Surface Preparation for Patching." Contractor shall identify all critical repair work areas before starting the work.
2. Procedure for delaminated, spalled, and unsound concrete removal shall be as specified in Section "Surface Preparation for Patching."
3. All steel exposed within cavities shall be cleaned to bare metal by abrasive methods as specified in Section "Surface Preparation for Patching."
4. Exposed steel shall be epoxy coated with an approved epoxy product as specified in Section "Surface Preparation for Patching."
5. Contractor shall prepare cavities for repair placement as specified in Section "Surface Preparation for Patching."
6. Patch installation procedures shall be in accordance with referenced specifications for selected material.

2.5 WI 71.2: CONCRETE SIDEWALK REPAIR - PARTIAL DEPTH

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, formwork, supervision, and incidentals necessary to locate existing spalls, prepare cavities, and install repair materials to restore concrete sidewalk to original condition and appearance. Provide control joints as required to match existing. Refer to Detail 71.1 for specific requirements.

B. Materials

1. Material for repair areas shall be as specified in Section "Concrete Repair Materials."
2. Sika Corporation; SikaTop 122 Plus
3. BASF Construction Chemical; MasterEmaco T 310 CI

C. Execution

1. Contractor shall locate and mark all work areas as specified in Section “Surface Preparation for Patching.” Marking will be done with methods approved by Engineer and Owner. Contractor shall identify all critical repair work areas before starting the work.
2. Procedure for delaminated, spalled, and unsound concrete removal shall be as specified in Section “Surface Preparation for Patching.”
3. All steel exposed within cavities shall be cleaned to bare metal by abrasive methods or other approved methods as specified in Section “Surface Preparation for Patching.”
4. Exposed steel shall be epoxy coated with an approved epoxy product as specified in Section “Surface Preparation for Patching.”
5. Contractor shall prepare cavities for repair placement as specified in Section “Surface Preparation for Patching.”
6. Patch installation procedures shall be in accordance with referenced specifications for selected material.

2.6 WI 74.1: JOINT SEALANT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, remove, prepare, and re-seal joints with silicone sealant in façade precast wall panels and other façade members. Refer to Detail 74.1 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section “Joint Sealants.”
2. Closed cell backer rod as required.

C. Execution

1. Contractor shall locate and identify all locations of work.
2. Remove existing joint sealant with minimal damage to adjacent façade precast panel surfaces.
3. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, spalled precast panels, and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.
4. Install oversize backer rod at all joints in strict accordance with manufacturer’s instructions.
5. Silicone sealant materials and associated reference specifications are listed in Section “Joint Sealants.” Sealant installation procedures shall be in accordance with referenced specifications for selected material.

2.7 WI 74.2: CONTROL JOINT SEALANT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, supervision, and incidentals necessary to locate, remove existing deteriorated sealant, prepare, and re-seal

all control joints in the precast wall panels. Refer to Detail 74.2 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Joint sealant materials shall be as specified in Section "Joint Sealants."

C. Execution

1. Contractor shall locate and mark all Work areas.
2. Remove existing joint sealant with minimal damage to adjacent concrete surfaces.
3. When existing joint dimensions do not conform to Detail 74.2, joints shall be routed or sawcut to an adequate width and depth as required by Work Item Detail. Routing shall be performed by mechanized device that has positive mechanical control over depth and alignment of cut.
4. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all remaining sealant and unsound concrete which may interfere with adhesion. Groove shall also be air blasted to remove remaining debris.
5. Sealant installation procedures shall be in accordance with referenced specifications for selected material.

2.8 WI 74.3: WALL VERTICAL JOINT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, remove, prepare, and re-seal vertical joints in concrete precast wall panels and other concrete members. Refer to Detail 74.3 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Joint Sealants."
2. Closed cell backer rod as required.

C. Execution

1. Contractor shall locate and identify all location of work.
2. Remove existing joint sealant with minimal damage to adjacent concrete surfaces.
3. Determine depth of electrical conduit (if applicable). Do not exceed ½ of this depth of routing where the crack to be repaired crosses the embedded items. Damage to embedded items will require repair or replacement at no cost to the Owner.
4. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.
5. Install oversize backer rod at wide joints in strict accordance with manufacturer's instructions.
6. Silicone sealant materials and associated reference specifications are listed in Section "Joint Sealants." Sealant installation procedures shall be in accordance with referenced specifications for selected material.

2.9 WI 74.4: COVE SEALANT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to prepare surfaces and install cove sealant between concrete walkway and vertical surfaces as shown on Drawings.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Joint Sealants."

C. Execution

1. Wall-floor intersection to be sealed shall be thoroughly cleaned by abrasive blasting to remove all contaminants, existing sealant, and foreign material.
2. Entire work area shall then be cleaned with compressed air to assure that all loose particles have been removed and that intersection is dry.
3. Properly prepared intersection shall be coated evenly and completely with joint primer material on each of intersecting faces in accordance with sealant manufacturer's recommendations.
4. After primer has cured, apply cove sealant to intersection such that sealant extends $\frac{3}{4}$ " onto each of intersecting faces.
5. Work cove sealant into joint so that all air is removed and tool to concave shape such that minimum throat dimension of no less than $\frac{1}{2}$ " is maintained.
6. Remove excess sealant and allow to cure.
7. Apply coating on horizontal and vertical surfaces where shown on drawings in even layers in strict accordance with manufacturer's recommendations.

2.10 WI 75.1: WALL EXPANSION JOINT – SILICONE

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, remove, prepare, and re-seal expansion joints in concrete precast wall panels and other concrete members. Refer to Detail 75.1 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Joint Sealants."
2. Closed cell backer rod as required.

C. Execution

1. Contractor shall locate and identify all location of work.
2. Remove existing joint sealant with minimal damage to adjacent concrete surfaces.
3. Determine depth of electrical conduit (if applicable). Do not exceed $\frac{1}{2}$ of this depth of routing where the crack to be repaired crosses the embedded items. Damage to embedded items will require repair or replacement at no cost to the Owner.

4. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.
5. Install oversize backer rod at wide joints in strict accordance with manufacturer's instructions.
6. Silicone sealant materials and associated reference specifications are listed in Section "Joint Sealants." Sealant installation procedures shall be in accordance

2.11 WI 75.1.1: WALL EXPANSION JOINT – PRECOMPRESSED

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, traffic control, formwork, supervision, and incidentals necessary to locate Work area, remove existing expansion joint system, miscellaneous accessories, repair existing block-out to conform to expansion joint manufacturer and install a new pre-compressed expansion joint system. Refer to Detail 75.1 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Expansion joint systems specified in Detail 75.1
2. ColorSeal DS System, Emseal
3. Wabo HSeal, BASF
4. Materials for concrete repairs shall be specified in Work Items 75.1 and 75.1.1.

C. Execution

1. Contractor shall locate and mark all work areas. Contractor shall identify all critical repair work areas and coordinate work and lane closures before starting the work.
2. Coordinate this task item with owner representative in order to produce minimum disruptions to the patrons.
3. Contractor shall remove existing expansion joint materials in manner that minimizes damage to adjacent concrete/masonry wall. Alterations and repairs to existing expansion joint block-out required for installation of new expansion joint system shall be performed in accordance with manufacturer recommendations and Section "Surface Preparation for Patching" and are incidental to this Task Item.

2.12 WI 76.1: EPOXY CRACKS INJECTION

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, supervision, and incidentals necessary to locate cracks, prepare, and inject random cracks with approved epoxy resin in façade precast panels. Refer to Detail 76.1 for specific requirements.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Epoxy Related Work."

C. Execution

1. Contractor shall locate all cracks to receive injection and report them to Engineer for verification.
2. Install repair materials in strict accordance with manufacturer's recommendations and referenced specifications for selected material.
3. At completion of the injection work, contractor shall remove injection ports, and repair the concrete profile to match existing conditions.

2.13 WI 91.1: PENETRATING SEALER

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, supervision, and incidentals necessary to pressure wash, prepare existing façade surfaces, and apply penetrating sealer.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Water Repellents and Sealers."

C. Execution

1. Contractor shall locate and layout Work areas on Drawings. Engineer shall verify replacement locations prior to start of work.
2. Contractor shall clean concrete façade surfaces.
3. Surface preparation shall be performed by coating system applicator or under its direct supervision. Contractor shall prepare surface to be coated in accordance with manufacturer's recommendations.
4. Protect adjacent non-coated surfaces from being coated. Mask off adjacent features not receiving coating. Contractor caused damage to elements not scheduled for coating application shall be cleaned and/or repaired to satisfaction of the Owner and at no additional cost to Owner.
5. Sealers system shall be thoroughly cured prior to Work areas being returned to service.

2.14 WI 95.1: WINDOW FRAME JOINT SEALANT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, remove, prepare, and re-seal joints at window/louver frames and other opening members. Refer to Detail 95.1 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section "Joint Sealants."
2. Closed cell backer rod as required.

C. Execution

1. Contractor shall locate and identify all location of work.
2. Remove existing joint sealant with minimal damage to adjacent façade surfaces.
3. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, spalled façade marble panels and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.
4. Install backer rod at wide joints in strict accordance with manufacturer's instructions.
5. Sealant materials and associated reference specifications are listed in Section "Joint Sealants." Sealant installation procedures shall be in accordance with referenced specifications for selected material.

2.15 WI 96.5: RESEAL REGLET FLASHING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, supervision, and incidentals necessary to locate, remove existing deteriorated sealant, prepare, and re-seal all control joints in the precast wall panels. Refer to Detail 96.5 for specific requirements. Refer to Plan Sheets for location of work.

PART 3 - EXECUTION (NOT USED)

END OF SECTION 011015

SECTION 012100 - ALLOCATED SCHEDULED VALUES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing Allocated Scheduled Values.

1.3 DEFINITIONS

- A. Allocated Scheduled Value: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At Project Manager's request, obtain proposals for each Allocated Scheduled Value for use in making final selections. Include recommendations that are relevant to performing the Work.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in Allocated Scheduled Values in a Cost Proposal Form approved by the Project Manager.

1.6 ALLOCATED SCHEDULED VALUES

- A. The total amount of all Allocated Scheduled Values shall be included within Base Bid Item 101, Air Traffic Control Tower Precast Concrete Shaft Repair.
- B. Use Allocated Scheduled Values only as directed by Project Manager for Owner's purposes and only by Construction Change Directives that indicate amounts to be charged to the Allocated Scheduled Value
- C. Contractor's overhead, profit, and related costs for products and equipment are included in the Allocated Scheduled Values. These costs include material, delivery, installation, taxes, insurance, equipment rental, and similar costs.

- D. The total amount of each Allocated Scheduled Value shall be included as part of the Contract Sum. Each Allocated Scheduled Value will be tracked for usage individually.
- E. Construction Change Directives authorizing use of funds from the Allocated Scheduled Values will include Contractor's related costs with overhead and profit.
- F. At Project Closeout, credit unused amounts remaining in the lump-sum location to Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an Allocated Scheduled Value promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each Allocated Scheduled Value with related materials and installations to ensure that each Allocated Scheduled Value item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOCATED SCHEDULED VALUES

- A. Allocated Scheduled Value No. 1: Unforeseen Conditions: Include the sum of \$50,000 for unforeseen building and site conditions.

END OF SECTION 012100

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
 - 2. Section 012100 "Allocated Scheduled Values" for products selected under an Allocated Scheduled Value.
 - 3. Section 012300 "Alternates" for products selected under an alternate.
 - 4. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.

2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of Program Managers and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Program Manager's Action: If necessary, Program Manager will request additional information or documentation for evaluation within seven days of receipt of a request for

substitution. Program Manager will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Forms of Acceptance: Change Order, Construction Change Directive, or Program Manager's Supplemental Instructions for minor changes in the Work.
- b. Use product specified if Program Manager does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 1. Conditions: Program Manager will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Program Manager will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.

- h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Project Manager will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form acceptable to Project Manager.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Project Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Project Manager are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within five (5) days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

- c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Project Manager.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Project Manager.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - 7. Proposal Request Form: Use form acceptable to Project Manager.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allocated Scheduled Values Adjustment: See Section 012100 "Allocated Scheduled Values" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of Allocations.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Project Manager will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Project Manager may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012100 "Allocated Scheduled Values" for procedural requirements governing the handling and processing of Allocated Scheduled Values.
 - 2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Project Manager at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Owner's name.
 - c. Owner's Project number.
 - d. MDOT-AERO Project number
 - e. Airport Improvement Plan (AIP) Project Number
 - f. Name of Project Manager.
 - g. Project Manager's Project number.

- h. Contractor's name and address.
 - i. Date of submittal.
- 2. Arrange schedule of values consistent with format of AIA Document G703.
- 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
- 4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
- 5. Allocated Scheduled Values: Provide a separate line item in the schedule of values for each Allocated Scheduled Value. Retain "Purchase Contracts" Subparagraph below if Specifications include purchase contracts. See the Evaluations in Section 011000 "Summary" for discussion of purchase contracts.
- 6. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Project Manager and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Project Manager will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

- E. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. **Transmittal:** Submit one signed and notarized original copies of each Application for Payment to Project Manager via email.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- H. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.

9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Certificates of insurance and insurance policies.
 12. Performance and payment bonds.
 13. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Project Manager issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Certification of completion of final punch list items.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706.
 6. AIA Document G706A.
 7. AIA Document G707.
 8. Evidence that claims have been settled.
 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 10. Final liquidated damages settlement statement.
 11. Proof that taxes, fees, and similar obligations are paid.
 12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Program Manager, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.

3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities, list cellular telephone numbers and e-mail addresses. Provide names, email addresses and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
1. Post copies of list in Project meetings, in temporary field office, and in web-based Project software directory. Keep list current at all times.
 2. Provide single point of contact with twenty-four (24) hour availability by phone.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and scheduled activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.6 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Program Manager will return without response those RFIs submitted to Program Manager by other entities controlled by Contractor.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Owner name.
 - 3. Owner's Project number.
 - 4. MDOT-AERO's Project number.
 - 5. Airport Improvement Plan (AIP) Project number.
 - 6. Program Manager's Project number.
 - 7. Date.
 - 8. Name of Contractor.
 - 9. RFI number, numbered sequentially.
 - 10. RFI subject.
 - 11. Related Specification Section, as appropriate.
 - 12. Drawing number and detail references, as appropriate.
 - 13. Field dimensions and conditions, as appropriate.
 - 14. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 15. Contractor's signature.
 - 16. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Program Manager.
 - 1. Attachments shall be electronic files in PDF format.
- D. Program Manager's Action: Program Manager will review each RFI, determine action required, and respond. Allow seven working days for Program Manager's response for each RFI. RFIs received by Program Manager after 1:00 p.m. Central will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.

- c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Program Manager's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Program Manager's action may include a request for additional information, in which case Program Manager's time for response will date from time of receipt by Program Manager of additional information.
 3. Program Manager's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Program Manager in writing within 5 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Log should be made available for review at Owner/Program Manager/Contractor meetings chaired by Contractor. Software log with not less than the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Program Manager.
 4. RFI number, including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Program Manager's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Program Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Program Manager within seven (7) days if Contractor disagrees with response.

1.7 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Program Manager's Digital Data Files: Digital data files of Program Manager's CAD drawings will be provided by Program Manager for Contractor's use during construction.
1. Program Manager makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 2. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Program Manager.

- a. Subcontractors and other parties granted access by Contractor to Program Manager's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to Owner and Program Manager.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Program Manager, prepare as follows:
 1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site with a virtual option unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Program Manager of scheduled meeting dates and times a minimum of ten (10) working days prior to meeting.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Program Manager, within three (3) days of the meeting.
- B. Preconstruction Meeting: Program Manager will schedule and conduct a preconstruction meeting before starting construction, at a time convenient to Owner and Program Manager, but no later than 15 days after execution of the Agreement.
 1. Attendees: Authorized representatives of Owner Program Manager, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Procedures for processing field decisions and Change Orders.
 - h. Procedures for RFIs.
 - i. Procedures for testing and inspecting.
 - j. Procedures for processing Applications for Payment.
 - k. Distribution of the Contract Documents.
 - l. Submittal procedures.
 - m. Preparation of Record Documents.

- n. Use of the premises and existing building.
 - o. Work restrictions.
 - p. Working hours.
 - q. Owner's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Meeting(s): Conduct a preinstallation meeting at Project site before each construction activity when required by other Sections and when required for coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Program Manager of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the activity under consideration, including requirements for the following:
 - a. Possible conflicts.
 - b. Compatibility requirements.
 - c. Time schedules.
 - d. Weather limitations.
 - e. Space and access limitations.
 - f. Testing and inspecting requirements.
 - g. Installation procedures.
 - h. Coordination with other work.
 - i. Protection of adjacent work.
 - j. Protection of construction and personnel.
 - 3. Record significant discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present, Program Manager, Owner, and to any other parties requiring information.
 - 5. Do not proceed with installation if the meeting cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the meeting at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at weekly intervals.

1. Attendees: In addition to representatives of Owner and Program Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

0228800-240589.01

Issued For Bid

BTL ATCT Rehabilitation
Battle Creek Executive Airport

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup construction schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Construction schedule updating reports.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Site condition reports.
 - 7. Unusual event reports.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file.
 - 2. PDF file.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit at weekly intervals.
- E. Material Location Reports: Submit at weekly intervals.
- F. Site Condition Reports: Submit at time of discovery of differing conditions.
- G. Unusual Event Reports: Submit at time of unusual event.

1.5 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Project Manager.
 - 2. Procurement Activities: Include procurement process activities for long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 - 4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Project Manager's administrative procedures necessary for certification of Substantial Completion.
 - 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use-of-premises restrictions.
 - f. Seasonal variations.
 - g. Environmental control.

- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion[.]
- F. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
 - 1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.
- G. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 - 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and the Contract Time.
- H. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate Final Completion percentage for each activity.
- I. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- J. Distribution: Distribute copies of approved schedule to Project Manager Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.7 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three (3) months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

1.8 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Testing and inspection.
 - 8. Accidents.
 - 9. Meetings and significant decisions.
 - 10. Unusual events.
 - 11. Stoppages, delays, shortages, and losses.
 - 12. Meter readings and similar recordings.
 - 13. Emergency procedures.
 - 14. Orders and requests of authorities having jurisdiction.
 - 15. Change Orders received and implemented.
 - 16. Construction Change Directives received and implemented.
 - 17. Services connected and disconnected.
 - 18. Equipment or system tests and startups.
 - 19. Partial completions and occupancies.
 - 20. Substantial Completions authorized.
- B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
 2. Material stored prior to previous report and since removed from storage and installed.
 3. Material stored following previous report and remaining in storage.
- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- D. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
1. Submit unusual event reports directly to Owner within one day(s) of an occurrence.
Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
 - 5. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 6. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 7. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 8. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Project Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

- B. Informational Submittals: Written and graphic information and physical samples that do not require Project Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Project Manager and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule as required to reflect changes in status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal Category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Project Manager's final release or approval.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Project Manager.
 4. Name of Contractor.

5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Category and type of submittal.
8. Submittal purpose and description.
9. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
10. Drawing number and detail references, as appropriate.
11. Indication of full or partial submittal.
12. Location(s) where product is to be installed, as appropriate.
13. Other necessary identification.
14. Remarks.
15. Signature of transmitter.

- B. Options: Identify options requiring selection by Project Manager.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Project Manager on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Project Manager using agreed upon electronic platform. Include PDF transmittal form.
 - a. Project Manager will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Project Manager reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Project Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Project Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Project Manager.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Project Manager.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.

- b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
- 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
- 5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Project Manager's digital data drawing files is otherwise permitted.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
 - 1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 - 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.

- c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
3. Electronic Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Project Manager will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three (3) sets of Samples. Project Manager will retain two (2) Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

- 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Project Managers and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Project Manager.

- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

- 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.9 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Project Manager.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Project Manager will not review submittals received from Contractor that do not have Contractor's review and approval.

1.10 PROJECT MANAGER'S REVIEW

- A. Action Submittals: Project Manager will review each submittal, indicate corrections or revisions required.
 - 1. PDF Submittals: Project Manager will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Project Manager will review each submittal and will not return it or will return it if it does not comply with requirements. Project Manager will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Project Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Project Manager will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Project Manager without action.

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BTL ATCT Rehabilitation
Battle Creek Executive Airport

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes special procedures for alteration work.

1.3 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep an element or detail secure and intact.

- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.4 COORDINATION

- A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.
 - 1. Schedule construction operations in sequence required to obtain best Work results.
 - 2. Coordinate sequence of alteration work activities to accommodate the following:
 - a. Owner's continuing occupancy of portions of existing building.
 - b. Owner's partial occupancy of completed Work.
 - c. Other known work in progress.
 - d. Tests and inspections.
 - 3. Detail sequence of alteration work, with start and end dates.
 - 4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
 - 5. Use of elevator and stairs.
 - 6. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

1.5 PROJECT MEETINGS FOR ALTERATION WORK

- A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site.
 - 1. Attendees: In addition to representatives of Owner, Architect, tenant, and Contractor, shall be represented at the meeting.
 - 2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
 - a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Fire-prevention plan.
 - c. Governing regulations.
 - d. Areas where existing construction is to remain and the required protection.
 - e. Hauling routes.
 - f. Sequence of alteration work operations.
 - g. Storage, protection, and accounting for salvaged and specially fabricated items.
 - h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
 - i. Qualifications of personnel assigned to alteration work and assigned duties.
 - j. Requirements for extent and quality of work, tolerances, and required clearances.

- k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.
 3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.
- B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
 1. Attendees: In addition to representatives of Owner, Architect, tenant, and Contractor, and other entities concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to alteration work.
 2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.
 - a. Alteration Work Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
 - b. Schedule Updating: Revise Contractor's Alteration Work Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each entity present, including review items listed in the "Preliminary Conference for Alteration Work" Paragraph in this article.
 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.6 INFORMATIONAL SUBMITTALS

- A. Alteration Work Subschedule:
 1. Submit alteration work subschedule within seven days of date established for commencement of alteration work.
- B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

1.7 QUALITY ASSURANCE

- A. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
 - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
 - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- B. Safety and Health Standard: Comply with ANSI/ASSP A10.6.

1.8 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs and preconstruction videotapes.
- B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.
- C. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches (300 mm) or more.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
 - 1. Use only proven protection methods, appropriate to each area and surface being protected.
 - 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
 - 5. Contain dust and debris generated by alteration work and prevent it from reaching the public or adjacent surfaces.

6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

3.2 PROTECTION FROM FIRE

A. Comply with NFPA 241 requirements unless otherwise indicated. Perform duties titled "Owner's Responsibility for Fire Protection."

B. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.

1. If combustible material cannot be removed, provide fire blankets to cover such materials.

- C. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
 - 1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
 - 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
 - 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 - 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
 - 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
- D. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.
- E. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.
 - 1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings. Comply with requirements in Section 013233 "Photographic Documentation."
- D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Program Manager, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" shall have the same meaning as the term "testing agency."
- H. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- I. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Program Manager.

1.4 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Program Manager.
- B. Delegated-Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two (2) or more standards or requirements is specified and the standards or requirements establish different or conflicting

requirements for minimum quantities or quality levels, inform the Program Manager regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Program Manager for clarification before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Program Manager for a decision before proceeding.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.
- E. Reports: Prepare and submit certified written reports and documents as specified.
- F. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
 2. Project title and number.
 3. Name, agency address, telephone number, and email address of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, company address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement of whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, company address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement of whether conditions, products, and installation will affect warranty.

5. Other required items indicated in individual Specification Sections.

1.8 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged in the activities indicated.
 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following Contractor's responsibilities, including the following:
1. Provide test specimens representative of proposed products and construction.
 2. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 3. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 4. Build site-assembled test assemblies and mockups, using installers who will perform same tasks for Project.
 5. Build laboratory mockups at testing facility, using personnel, products, and methods of construction indicated for the completed Work.
 6. When testing is complete, remove test specimens and test assemblies, mockups; do not reuse products on Project.
 7. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Program Manager, with copy to Contractor. Interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups of size indicated.
 2. Build mockups in location indicated or, if not indicated, as directed by Program Manager.
 3. Notify Program Manager seven days in advance of dates and times when mockups will be constructed.
 4. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 6. Obtain Program Manager's approval of mockups before starting corresponding Work, fabrication, or construction.
 - a. Allow seven (7) days for initial review and each re-review of each mockup.
 7. Promptly correct unsatisfactory conditions noted by Program Manager's preliminary review, to the satisfaction of the Program Manager before completion of final mockup.
 8. Approval of mockups by the Program Manager does not constitute approval of deviations from the Contract Documents contained in mockups unless Program Manager specifically approves such deviations in writing.

9. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
10. Demolish and remove mockups when directed unless otherwise indicated.

1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 2. Payment for these services will be made from Structural Special Inspection allocation in Section 012100 "Allocations," as authorized by Change Orders.
 3. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

- D. Testing Agency Responsibilities: Cooperate with Program Manager and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Program Manager and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update and submit with each Application for Payment.
 1. Schedule Contents: Include tests, inspections, and quality-control services, including Contractor- and Owner-retained services, commissioning activities, and other Project-required services paid for by other entities.
 2. Distribution: Distribute schedule to Owner, Program Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency and/or special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Program Manager and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Program Manager with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 1. Date test or inspection was conducted.

2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Program Manager.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Program Manager's reference during normal working hours.
1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if

bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
 - 1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
 - 1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
 - 2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 - 3. ICC - International Code Council; www.iccsafe.org.
 - 4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
 - 1. COE - Army Corps of Engineers; www.usace.army.mil.
 - 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 - 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 - 4. DOD - Department of Defense; www.quicksearch.dla.mil.
 - 5. DOE - Department of Energy; www.energy.gov.
 - 6. EPA - Environmental Protection Agency; www.epa.gov.

7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.govinfo.gov.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.

8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Program Manager, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - 1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.
- F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SUPPORT FACILITIES INSTALLATION

A. Comply with the following:

1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
2. Maintain support facilities until Program Manager schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

D. Storage and Staging: Use designated areas of Project site for storage and staging needs.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

H. Temporary Elevator Use: Use of elevators is not permitted.

I. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

J. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 4. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
- F. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

- A. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 1. Protect porous materials from water damage.
 2. Protect stored and installed material from flowing or standing water.
 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 4. Remove standing water from decks.
 5. Keep deck openings covered or dammed.
- B. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 2. Keep interior spaces reasonably clean and protected from water damage.
 3. Periodically collect and remove waste containing cellulose or other organic matter.
 4. Discard or replace water-damaged material.
 5. Do not install material that is wet.
 6. Discard and replace stored or installed material that begins to grow mold.
 7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.
- C. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Program Manager.
 - c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. The Work of This Section Includes: Administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 2. Section 014200 "References" for applicable industry standards for products specified.
 - 3. Section 017700 "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products unless otherwise indicated.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluating Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 2. Data indicating compliance with the requirements specified in "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is inconspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.

- b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
- 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.
- C. Storage:
 - 1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
 - 2. Store products to allow for inspection and measurement of quantity or counting of units.
 - 3. Store materials in a manner that will not endanger Project structure.
 - 4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
 - 5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections are to be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of Owner or endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

- a. Submit additional documentation required by Project Manager in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by Architect, whose determination is final.

B. Product Selection Procedures:

1. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.

C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:

1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

- B. Program Manager's Action on Comparable Products Submittal: If necessary, Program Manager will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
 - 1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - 2. Use product specified if Program Manager does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of Owner's portion of the Work.
 - 6. Coordination of Owner-installed products.
 - 7. Progress cleaning.
 - 8. Starting and adjusting.
 - 9. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for coordination of, Owner-performed work, and limits on use of Project site.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Professional Engineer Qualifications: Refer to Section 014000 "Quality Requirements."
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION\

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 2. List of detrimental conditions, including substrates.
 3. List of unacceptable installation tolerances.
 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Program Manager in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Program Manager promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 2. Establish limits on use of Project site.

3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 4. Inform installers of lines and levels to which they must comply.
 5. Check the location, level and plumb, of every major element as the Work progresses.
 6. Notify Program Manager when deviations from required lines and levels exceed allowable tolerances.
 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Program Manager.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
1. Do not change or relocate existing benchmarks or control points without prior written approval of Program Manager. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Program Manager before proceeding.
 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 1. Make vertical work plumb, and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Program Manager. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Program Manager.
 2. Allow for building movement, including thermal expansion and contraction.
 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with

integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Program Manager. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.

5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Program Manager. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 3. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Program Manager's use prior to Program Manager's inspection, to determine if the Work is substantially complete.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Program Manager. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Program Manager's signature for receipt of submittals.
 - 5. Submit testing, adjusting, and balancing records.

6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Program Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Program Manager will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Program Manager, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.
- 1.8 FINAL COMPLETION PROCEDURES
- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:

1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Program Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Program Manager. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Program Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Program Manager will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.9 LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listed by room or space number.
 2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Program Manager.
 - d. Name of Contractor.
 - e. Page number.

1.10 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Program Manager for designated portions of the Work where warranties are indicated to commence on dates other than date of

Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - i. Vacuum and mop concrete.
 - j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - k. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - l. Remove labels that are not permanent.
 - m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - q. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - r. Clean strainers.
 - s. Leave Project clean and ready for occupancy.

- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Program Manager will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Program Manager by email to Program Manager. Enable reviewer comments on draft submittals.
 - 2. Submit one paper copy. No paper copies will be returned.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Program Manager will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Program Manager will return copy with comments.
 - 1. Correct or revise each manual to comply with Program Manager's comments. Submit copies of each corrected manual within 15 days of receipt of Program Manager's comments and prior to commencing demonstration and training.
- E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

- a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.

4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Program Manager.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Program Manager that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."
- 1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL
- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. System, subsystem, or equipment failure.
 - 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.

2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.

- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.

- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
 - F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
 - G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
 - H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
 - I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
 - J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of maintenance manuals.
- 1.11 PRODUCT MAINTENANCE MANUALS
- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
 - B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
 - 2) Program Manager will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned Record Prints and one set of file prints.

- 2) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files and one paper copies of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories and one paper copies of each submittal.
 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories and one paper copies of each submittal.
- E. Reports: Submit written report weekly indicating items incorporated into Project Record Documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.

- f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Program Manager's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Program Manager. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Annotated PDF electronic file with comment function enabled.
 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 3. Refer instances of uncertainty to Program Manager for resolution.
 4. Program Manager will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Program Manager's digital data files.
 - b. Program Manager will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.

3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Program Manager.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 3. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as annotated PDF electronic file.

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Program Manager's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.

- b. Name and address of videographer.
 - c. Name of Program Manager.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Date of video recording.
2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
3. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
4. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 017823 "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Program Manager.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.

- e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Owner will furnish Contractor with names and positions of participants.
- B. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Program Manager, with at least seven days' advance notice.
- C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- D. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

1.10 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode.
 - 1. Submit video recordings on CD-ROM or thumb drive.
 - 2. File Hierarchy: Organize folder structure and file locations according to Project Manual table of contents. Provide complete screen-based menu.
 - 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.
 - 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:
 - a. Name of Contractor/Installer.

- b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. Email address.
- B. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
 - 1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- C. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
 - 1. Furnish additional portable lighting as required.
- D. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

SECTION 030101 - SURFACE PREPARATION FOR PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the provisions of all labor, materials, supervision and incidentals required to locate and remove all delaminated and unsound concrete, including preparation of cavities created by removal to receive patching material and preparation of existing surface spalls to receive patching material.
- B. Related Sections include the following:
 - 1. Division 03 Section "Concrete Repair Materials."
- C. Contractor shall fully acquaint themselves with the existing job site conditions and discuss the accessibility of the work areas with the Owner.
- D. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.
- E. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the facility. This work shall be done in consultation with the Owner.

1.2 REFERENCES

- A. Applicable Standards:
 - 1. American Concrete Institute (ACI), latest version:
 - a. ACI 301 Specifications for Structural Concrete
 - b. ACI 546.1R Guide for Repair of Concrete Bridge Structures
 - c. ACI 546R Concrete Repair Guide
 - 2. International Concrete Repair Institute (ICRI):
 - a. ICRI 310.1R Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
 - b. ICRI 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair
 - c. ICRI 320.2R Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces

PART 2 - PRODUCTS AND MANUFACTURERS

- A. Cementitious epoxy coating for existing exposed non-prestressed steel reinforcement:

1. BASF: MasterEmaco P 124
2. Sika Chemical Corporation: Armatec 110 EpoCem
3. Euclid Chemical: Duralprep A.C.

2.2 SUBSTITUTIONS

- A. Substitutions may be considered provided complete technical information and job references are furnished to the Owner/Engineer and approved prior to commencement of work.
- B. Changes in products required to suit temperature and environmental conditions at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for the various tasks.
- C. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also heed all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Horizontal Surfaces
 1. Contractor shall sound all designated floor areas for delaminations.
- B. Vertical and Overhead Surfaces
 1. Contractor shall sound only vertical and overhead surfaces in designated areas that show evidence of cracking and/or staining. Cracks, usually horizontal in orientation along beam faces, and vertical in orientation near column corners are indicators of delaminated concrete.
- C. Delaminated areas: Once located by Contractor, Contractor shall further sound and mark them to define limits.
- D. Spalls: Contractor shall locate spalls by visual inspection, and mark boundaries.
- E. Engineer may mark additional unsound concrete for removal.
- F. Areas to be removed shall be rectangular to provide adequate appearance.
- G. Contractor shall locate and determine the depth of all embedded reinforcement, electrical conduit, post-tensioned tendons, in repair area and mark these locations for reference during concrete removal. Do not cut any embeds unless approved by Engineer.

3.2 ABRASIVE BLASTING

- A. Necessary approvals shall be obtained by the Contractor from authorizing governmental or other agencies prior to abrasive-blasting. Abrasive-blasting operations shall comply with the requirements of OSHA and NIOSH (National Institute for Occupational Safety and Health) Standard PB-246-697.

3.3 REPAIR PREPARATION

- A. Contractor shall review all marked removal and preparation areas and request clarification by Engineer of shoring requirements in questionable areas. Shores shall be in place prior to concrete removal and cavity preparation in any area requiring shores.
- B. All delaminated, spalled and unsound concrete shall be removed from within marked boundary to minimum depth of 3/4 inch (19mm) using 15 lb to 30 lb (650N to 130N) air hammers equipped with chisel point bits. When directed by Engineer, chipping hammers less than 15 lb (65 N) shall be used to minimize damage to sound concrete. If delaminations exist beyond minimum removal depth, chipping shall continue until all unsound and delaminated concrete has been removed from cavity.
- C. Where embedded reinforcement, anchorages, or electrical conduit is exposed by concrete removal, proceed with caution to avoid damaging it during removal of unsound concrete. If bond between exposed embedded reinforcement/anchorages and adjacent concrete is impaired by Contractor's removal operation, Contractor shall perform additional removal around and beyond perimeter of reinforcement for minimum of 3/4 inch (19mm) along entire length affected at no cost to owner.
- D. Large areas requiring the removal of a thin layer of concrete shall be treated with other methods such as hydro-demolition. Hydro-demolition pressure is limited to 8,000 psi (55 MPa) unless otherwise approved the Engineer. If this method is selected, Contractor shall perform abrasive water blasting mockup for hydro-demolition with the Engineer present. Mockups shall be reviewed by the Engineer and Contractor for the specified surface preparations profile. The approved hydro-demolition pressure shall not be exceeded. Perform hydro-demolition so that concrete is removed in thin layers not exceeding 1/4 inch (6 mm) per layer and in multiple passes to achieve the appropriate removal depth. Do not attempt to remove more than 1/4 inch (6mm) thick concrete layers at a time. Excessive damage caused by hydro-demolition shall be repaired by the Contractor at no cost to the Owner.
- E. If rust is present on embedded reinforcement where it enters sound concrete, additional removal of concrete along and beneath reinforcement will be required. Additional removal shall continue until non-rusted reinforcement is exposed, or may be terminated per Engineer's instructions.
- F. Removal of concrete for repair requires saw cutting 3/4 inch (19mm) into floor slab of the perimeter of the removal, unless a more stringent criteria applies. For vertical and overhead surfaces marked areas shall be saw-cut, ground, or chipped to depth of 1/2 inch (12 mm) to existing concrete, measured from original surface.
- G. Edges of patch areas shall be dressed perpendicular to member face to eliminate feather edges. All edges shall be straight and patch areas square or rectangular-shaped. Do not overcut patch corners during sawcutting, chipping, or grinding.

- H. Contractor shall exercise extra caution during saw cutting to avoid damaging existing reinforcement particularly post-tensioned tendons, sheathing, electrical conduit and any other embedded items near surface of concrete. Any damage to existing embedded items shall be repaired by Contractor with Engineer's approved methods at no additional cost to Owner.

3.4 INSPECTION OF REPAIR PREPARATION

- A. After removals are complete, but prior to final cleaning, cavity and exposed reinforcement shall be inspected by Contractor and subject to verification by Engineer for compliance with requirements of this Section.
- B. Contractor shall inspect embedded reinforcement and conduits exposed within cavity for defects due to corrosion or damage resulting from removal operations. Contractor shall notify Engineer of all defective and damaged reinforcement or conduits. Replacement of damaged or defective reinforcement/conduits shall be performed in accordance to the requirements of this Section.

3.5 CLEANING OF REINFORCEMENT

- A. All exposed reinforcing steel shall be cleaned and free of rust and other contaminants. Cleaning shall be accomplished by abrasive methods. Cleaning shall be completed immediately before patch placement to insure that base metal is not exposed to elements and further rusting for extended periods of time. Use powered wire brushes in locations where reinforcing steel cannot be cleaned by abrasive-blasting or water-blasting.
- B. All exposed reinforcing steel shall be coated with a corrosion inhibiting product specified in Part 2 of this specification prior to mortar application. Protect prepared surfaces from damage prior to and during patch placement.

3.6 REINFORCEMENT IN REPAIR AREAS

- A. All embedded reinforcement exposed during surface preparation that has lost more than 10% of original cross-sectional area due to corrosion shall be considered defective. Defective reinforcement shall be supplemented in accordance to Engineer's instructions and shall be paid for by Owner.
- B. Damaged reinforcement caused during removals made by Contractor shall be supplemented in accordance to Engineer's instructions and shall be paid for by Contractor.
- C. Supplement defective or damaged embedded reinforcement of equal diameter with a Class B splice in accordance to ACI-318 beyond damaged portion of reinforcement. Secure new reinforcement to existing reinforcement with approved anchors. Supplemental steel shall be A615 Grade 60 steel except where more stringent requirements apply in drawings and/or details.
- D. Loose reinforcement exposed during surface preparation shall be securely anchored prior to patch placement. Loose reinforcement shall be adequately secured with wire ties to bonded reinforcement or with drilled-in anchors. Drilled-in anchors shall be TW-1400 anchors by ITW Ramset/Red Head, Tie-Wire Wedge-All anchors by Simpson Strong-Tie, or approved equal.

Engineer will determine adequacy of wire ties and anchors. Securing loose reinforcement is incidental to surface preparation.

- E. Minimum of 1-1/2 inch (38 mm) concrete cover shall be provided over all new/existing reinforcement except where more stringent requirements apply in drawings and/or details.

3.7 PREPARATION OF CAVITY FOR PATCH PLACEMENT

- A. Cavities will be examined prior to commencement of patching operations. Sounding surface shall be part of examination. Delaminations noted during sounding shall be removed as specified in this Section.
- B. All debris shall be removed from site prior to commencement of patching.

END OF SECTION 030101

SECTION 030105 – CONCRETE REPAIR MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the provisions of all labor, materials, supervision and incidentals required to prepare deteriorated or damaged concrete surfaces and install patching materials to restore original surface condition and integrity.
- B. Related Sections include the following:
 - 1. Division 03 Section “Surface Preparation for Patching.”
- C. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.
- D. Contractor shall ensure that there is adequate ventilation in areas where repair work is being performed and that no work results in nauseating, annoying or toxic fumes and odors from entering occupied areas. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.
- E. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the facility. This work shall be done in consultation with the Owner.

1.3 REFERENCES

- A. Applicable Standards:
 - 1. American Concrete Institute (ACI):
 - a. ACI 301R Specifications for Structural Concrete
 - b. ACI 305R Hot Weather Concreting
 - c. ACI 306R Cold Weather Concreting
 - d. ACI 308R Guide to Curing Concrete
 - e. ACI 318R Building Code Requirements for Structural Concrete
 - f. ACI 548.1R Guide for Use of Polymers in Concrete
 - 2. International Concrete Repair Institute (ICRI):

- a. ICRI 310.1R Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
 - b. ICRI 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair
 - c. ICRI 320.2R Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces
3. American Society for Testing and Materials (ASTM):
- a. ASTM C109 Test Method for Compressive Strength of Hydraulic Cement Mortars

1.4 INFORMATION SUBMITTALS

- A. Make submittals in accordance with requirements of Division 01 and as specified in this Section.
- B. Product Data: Product data sheets, Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS), and installation instructions for each product selected.
- C. Material Certificates:
 - 1. Where product data does not indicate material compatibility of independent products that form a system assembly; provide a written statement of material compatibility from the system assembly manufacturer. System assembly shall include:
 - a. Concrete Repair Materials
 - b. Epoxy Bonding Agents
 - c. Epoxy Coatings for Reinforcement

1.5 ACTION SUBMITTALS

- A. Proposed Means and Methods:
 - 1. Contractor shall submit procedures to protect fresh resurfacing, patches, and concrete from weather and traffic.

1.6 QUALITY ASSURANCE

- A. Work shall conform to requirements of the American Concrete Institute (ACI) and International Concrete Repair Institute (ICRI) as applicable except where more stringent requirements are shown on Drawings or specified in this Section.
- B. Source Limitations: For each independent repair location, use concrete repair materials, epoxy bonding agents, epoxy coatings for reinforcement, galvanic anodes, and repair material admixtures of a single manufacturer.
- C. Qualifications

1. Manufacturer's Qualifications: Companies furnishing the repair materials shall have a proven track record of at least five years. Furthermore, they shall have in existence a program of training, certifying, and supporting a nationally organized program of approved contractors. Evidence of this shall be made available to the Engineer/Owner upon request.
2. Contractor's Qualifications: Contractor performing the work shall be an approved contractor by the manufacturer furnishing the repair materials, and shall have no less than five years of experience in the various types of concrete repair work required in this project. Upon request by the Engineer, a notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer/Owner.
3. Applicator's Qualifications:
 - a. Concrete repair work shall only be performed by contractors who have successfully used this process on at least three similar structural repairs of equal scope which have performed successfully for a minimum period of five years.
 - b. Only adequately trained and experienced personnel shall be used on the job.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR CEMENTITIOUS REPAIR MORTARS

- A. Mortar used for bonding, patching, and resurfacing in exposed or exterior environmental conditions with large cyclic temperature changes shall have the following properties:
 1. Repair mortar for unformed vertical and overhead repairs shall be non-sagging.
 2. Acceptable structural repair materials shall have minimum 3-day compressive strength (ASTM C 39 or ASTM C 109) of 3,000 psi (20 MPa), and 5,000 psi (35 MPa) at 28 days as certified by manufacturer.
 3. Coefficient of thermal expansion shall be comparable with that of concrete [5.5×10^{-6} in/in/°F (9.9×10^{-6} mm/mm/°C)].
 4. Acceptable structural repair materials shall have a maximum 1 year drying shrinkage (ASTM C 157) of 0.05%.
 5. Sand and aggregate extension used in preparing mortar shall be graded oven dry quartzite furnished in bags.
 6. The cured repair mortar material shall match the existing texture and color of existing exposed/cured concrete without giving a blotchy appearance. A test patch shall be applied for approval prior to final acceptance of the mortar. Size of test patch shall be approximately equal to the size of the average mortar patch to be used on the project.

2.2 CONCRETE REPAIR MATERIALS

A. Polymer Modified Mortar for Horizontal Repairs:

1. BASF Construction Chemicals; MasterEmaco T 310 CI
2. Sika Corporation; SikaRepair 222 with undiluted Latex R
3. Sika Corporation; SikaTop 122 Plus
4. Euclid Chemical Company; Eucocrete Supreme

B. Polymer Modified Mortar for Overhead/Vertical Repairs:

1. BASF Construction Chemicals; MasterEmaco N 425
2. Sika Corporation; SikaRepair 223 with undiluted Latex R
3. Sika Corporation; SikaTop 123 Plus
4. Euclid Chemical Company; Verticoat
5. Euclid Chemical Company; Verticoat Supreme

2.3 ACCESSORY PRODUCTS

A. Bonding Agent:

1. Three-component, cementitious, epoxy-modified bonding agent for bonding new concrete to existing concrete.
 - a. BASF Construction Chemicals; MasterEmaco P 124
 - b. Sika Corporation; Armatec 110 EpoCem
 - c. Euclid Chemical Company; Duralprep A.C.

2.4 SUBSTITUTIONS

- A. Product substitutions may be considered provided complete technical information and job references are furnished to the Owner/Engineer and approved prior to commencement of work.
- B. Changes in products required to suit temperature, environmental conditions, and local VOC regulations at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for the various tasks.
- C. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also read all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Application Planning

1. In using the specified products of this Section, follow strictly the Manufacturer's specifications and written instructions for mixing and application.
2. Review all Manufacturer warning labels and Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS).
3. Apply all materials in accordance with applicable safety laws.

3.2 SURFACE PREPARATION

- #### A. Concrete surface to which the repair material is to be applied shall be exposed parent concrete free of loose and unsound materials. Preparation of cavity to receive new repair material shall be in accordance to Section "Surface Preparation for Patching" and manufacturer's instructions.
- #### B. Concrete Surface Inspection: Ensure that the surface and ambient temperature is at least 45°F (7°C) and rising at the time of application.

3.3 PATCHING WITH REPAIR MORTAR

A. Bonding Agent

1. Apply a scrub coat of the repair mortar in strict accordance with manufacturer's recommendations. Alternatively, a bonding agent may be applied on the prepared surface prior to placement of the repair mortar.
2. If bonding agent dries, cavity shall not be patched until it has been re-cleaned and prepared as indicated in Section "Surface Preparation for Patching." Bonding agent shall not be applied to more cavities than can be patched within 15 minutes by available manpower.
3. Patching materials shall be placed immediately following bonding agent application in strict accordance with manufacturer's instructions.

B. Mortar Application

1. Condition repair mortar material to 65°F-80°F (18°C-26°C) unless otherwise recommended by the manufacturer. Materials beyond this range of temperature shall not be used.
2. Mix the components in a clean container free of contaminants as recommended by the manufacturer.

3. Thoroughly blend components and aggregates with portable mixers to a uniform and homogenous mixture. Small batches of one quart or less may be mixed by spatulas, palette knives or similar devices.
4. Mixing should be accomplished within three minutes when using Jiffy mixer or five minutes when mixed by hand.
5. Apply mortar by means suitable for the consistency of the mortar mix.
6. Use appropriate forms as required for retaining mortar if mixed to a flowable consistency.
7. Consolidate the mortar thoroughly to remove entrapped air.
8. Supplemental wire mesh shall be required for delamination and spall repairs greater than 4 square feet (0.4 square meter) in area and greater than 2-inch (50 mm) depth. Fresh bonding grout is required between successive lifts of patching material.
9. Finish surface of mortar to match the texture and contours of existing concrete.

3.4 CURING

- A. Immediately after finishing, keep patch material continually moist for at least 24 hrs. Continue curing for first 7 days after patch placement. During initial and final curing periods maintain patch material above 50 °F.
- B. Prevent rapid drying at end of curing period.
- C. Provide additional curing as required by manufacturer's recommendations.

3.5 CLEANUP

- A. Protect surfaces surrounding the work areas against spillage.
- B. Material spillage shall be cleaned before it sets and becomes difficult to remove.
- C. Cleanup all portions of the existing structure that are soiled or stained in the process of concrete repair work.

3.6 FIELD QUALITY CONTROL

- A. Responsibilities
 1. Contractors Responsibility: Contractor is responsible for performing continuous field quality control during the progress of work.
- B. Minimum Quality Control Requirements

1. Ensure edges of resurfacing and repairs are saw cut to prevent feather edges. Ensure corners of the repair are not overcut.
2. Ensure repair material is placed within the epoxy bonding agent open items.
3. Review material expiration dates and remove expired materials from the project site.
4. Accurately measure and monitor the addition of water and aggregate extension when mixing repair mortar or concrete.
5. Monitor repair material working times and dispose of all materials that have exceeded the manufacturer's published working time.
6. Patched areas shall be sounded by the Contractor after curing for 72 hours. Contractor shall repair all hollowness detected by removing and replacing patch or affected area at no cost to Owner.
7. If shrinkage cracks appear in patch area after the initial curing period is concluded, the patch in question shall be considered unacceptable, and it shall be removed and replaced by Contractor at no cost to Owner.

C. Acceptance of Work

1. Acceptance of completed concrete repair will be in accordance to ACI 301.

END OF SECTION 030105

SECTION 030140 – PRECAST RESTORATION AND CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. References:
 - 1. Precast Concrete Institute (PCI) MNL 117.
 - 2. National Precast Concrete Association (NPCA) Precast Concrete Architectural Repair Guide.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Repairing precast concrete façade panels.
 - 2. Cleaning precast concrete façade panel surfaces.
- B. Related Sections include the following:
 - 1. Division 07 Section "Water Repellants and Sealers."
 - 2. Division 07 Section "Joint Sealants."
- C. Allowances: Quantity allowances for precast masonry restoration are indicated on the Bid Form or in Division 1 Section "Work Items."
 - 1. Perform precast masonry restoration included in quantity allowances only as authorized. Authorized work includes work indicated by project drawings and specifications or as indicated by Engineer in writing.
 - 2. Notify Engineer weekly of extent of work performed that is attributable to quantity allowances. Provide detailed notification in writing for specific work items and units completed.
 - 3. Perform work that exceeds quantity allowances only as authorized by Change Orders. Work performed in excess of allowed quantities without prior approval from Engineer is subject to rejection for payment.

1.3 DEFINITIONS

- A. Water Spray Pressures:
 - 1. Low-Pressure: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
 - 2. Medium-Pressure: 400 to 800 psi (2750 to 5500 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

3. High-Pressure: 800 to 1200 psi (5500 to 8250 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.
- B. Samples for Verification: Before erecting mockup, submit samples of the following:
 1. Each type of masonry patching compound in form of briquettes, at least 3 inches (75 mm) long by 1-1/2 inches (38 mm) wide. Document each sample with manufacturer and stock number or other information necessary to order additional material.
 2. Each type of cleaning product.
- C. Restoration Program: For each phase of restoration process, provide detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.
 1. If materials and methods other than those indicated are proposed for any phase of restoration work, provide a written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.
- D. Cleaning Program: Describe cleaning process in detail, including materials, methods, and equipment to be used and protection of surrounding materials on building and Project site, and control of runoff during operations.
 1. If materials and methods other than those indicated are proposed for cleaning work, provide a written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.

1.5 QUALITY ASSURANCE

- A. Restoration Specialist Qualifications: Engage an experienced, preapproved concrete masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance for a **minimum of five (5) years**.
 1. At Contractor's option, work may be divided between two specialist firms: one for cleaning work and one for repair work.
 2. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that precast restoration and cleaning are in progress. Supervisors shall not be changed during Project except for causes beyond control of restoration specialist firm.

3. Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing. When precast units are being patched, assign at least one worker among those performing patching work who is trained and certified by manufacturer of patching compound to apply its products.
- B. Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing with a **minimum of five (5) years** experience at the individual level.
- C. Source Limitations: Obtain each type of material for precast restoration (precast, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.
- D. Mockups: Prepare mockups of restoration and cleaning as follows to demonstrate aesthetic effects and qualities of materials and execution. Prepare mockups on existing walls under same weather conditions to be expected during remainder of the Work. Do not proceed with work until mockups have been observed and approved by Engineer.
 1. Patching: Remove material in two separate areas approximately 12 inches (300 mm) high by 12 inches (300 mm) wide for each type of precast patching required. Patch only one of the two areas.
 - a. The unpatched area will be to demonstrate material removal and surface preparation for patching.
 - b. The patched area will be to demonstrate the completed patching, including aesthetic qualities and craftsmanship.
 2. Cleaning: Clean an area for each type of precast and surface condition.
 - a. Test Panel: Make a test panel to demonstrate the completed cleaning without chemical cleaners for effectiveness.
 3. Scheduling: Allow a waiting period of not less than seven days after completion of mockups before review by Engineer and Owner.

Approval of mockups is for other material and construction qualities specifically approved by Engineer in writing.

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Engineer in writing.

Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

1.7 PROJECT CONDITIONS

- A. Repair precast only when air temperature is between and 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least 7 days after completion of work.
- B. Cold-Weather Requirements: Comply with the following procedures for precast repair and mortar-joint pointing:
 - 1. When air temperature is below 40 deg F (4 deg C), heat mortar ingredients, repair materials, and existing precast to produce temperatures between 40 and 120 deg F (4 and 49 deg C).
 - 2. When mean daily air temperature is below 40 deg F (4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 7 days after repair and pointing.
- C. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and patching materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above.
- D. Patch precast only when air and surface temperatures are between and 55 and 100 deg F (13 and 38 deg C) and are predicted to remain above 55 deg F (13 deg C) for at least 7 days after completion of work. On days when air temperature is predicted to go above 90 deg F (32 deg C), schedule patching work to coincide with time that surface being patched will be in shade or during cooler morning hours.
- E. Clean precast surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least 7 days after completion of cleaning.

1.8 SEQUENCING AND SCHEDULING

- A. Order replacement materials at earliest possible date, to avoid delaying completion of the Work. Provide written notification along with bid information if delays because of material lead times are anticipated. Requests for extensions of project completion date due to delays in material deliveries will not be considered.
- B. Phase precast masonry work in a logical and organized manner to prevent moisture infiltration from weather, cleaning, and other work activities. The general sequence of restoration work shall be:
 - 1. Pre-clean surfaces if needed.

2. Perform precast repairs.
3. Perform other repair work.
4. Clean precast surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.
 2. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 MISCELLANEOUS MATERIALS

- A. Precast Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching precast, is vapor- and water permeable, exhibits low shrinkage, and develops high bond strength to all types of precast. Formulate in colors and textures to match precast being patched. Provide not less than three custom manufactured colors to enable matching each piece of precast.
1. Products:
 - a. Cathedral Precast Products, Inc.; Jahn Restoration Mortar M70.
 - b. Edison Coatings, Inc.; Custom System 45 LC.
- B. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, and polished precast surfaces from damaging effects of acidic and alkaline masonry cleaners.
1. Products:
 - a. ProSoCo; Sure Klean Strippable Masking.
 - b. Diedrich Technologies Inc.; Diedrich Acid Guard.
 - c. Price Research, Ltd.; Price Mask.

2.3 CLEANING MATERIALS

- A. Water for Cleaning: Potable.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being cleaned, building site, plants, and surrounding buildings from harm resulting from precast restoration work.
 - 1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.

3.2 PRECAST PATCHING

- A. Patch the following precast units:
 - 1. Units with chipped edges or corners.
 - 2. Units with small areas of deep deterioration.
- B. Remove and replace existing patches, unless otherwise indicated or approved by Engineer.
- C. Cut out deteriorated precast and adjacent precast that has begun to deteriorate. Remove additional material so patch will not have feathered edges and will be at least 1/2 inch (12 mm) thick, but not less than recommended by patching compound manufacturer.
 - 1. Remove loose particles, soil, debris, oil, and other contaminants from existing precast units at locations to be patched by cleaning with stiff-fiber brush.
- D. Mix patching compound in individual batches to match each precast unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
- E. Brush-coat precast surfaces with slurry coat of patching compound according to manufacturer's written instructions.
- F. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch (6 mm) or more than 2 inches (50 mm) thick. Roughen surface of each layer to provide a key for next layer.
 - 1. Trowel, scrape, or carve surface of patch to match texture and surface plane of surrounding precast. Shape and finish surface before or after curing, as determined by testing, to best match existing precast.
 - 2. Build patch up 1/4 inch (6 mm) above surrounding precast and carve surface to match adjoining precast after patching compound has hardened.
- G. Keep each layer damp for 72 hours or until patching compound has set. Cover fresh patches with kraft paper or polyethylene sheet to prevent premature drying.
- H. Remove and replace patches with hairline cracks or that show separation from precast at edges, those that do not match adjoining precast in color or texture, or those patches as indicated by Engineer.

3.3 CLEANING PRECAST, GENERAL

- A. Proceed with cleaning in an orderly manner; work from bottom to top of each scaffold width and from one end of each elevation to the other.
- B. Use only those cleaning methods indicated for each material and location.
 - 1. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage precast.
 - a. Equip units with pressure gages.
 - 2. For water spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
 - 3. For high-pressure water spray application, use fan-shaped spray tip that disperses water at an angle of at least 40 degrees.
- C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging precast surfaces.
- D. Removing Plant Growth: Completely remove plant, moss, and shrub growth from precast surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil or debris from open joints to whatever depth they occur.
- E. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, caulking, asphalt, and tar.
 - 1. Carefully remove heavy accumulations of material from surface of masonry with sharp chisel. Do not scratch or chip masonry surface.
- F. Water Application Methods:
 - 1. Spray Applications: Unless otherwise indicated, hold spray nozzle at least 18 inches (460 mm) from surface of precast and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.
- G. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks. Clean windows.

3.4 CLEANING PRECAST

- A. Cold-Water Wash: Use cold water applied by high-pressure spray.

3.5 FINAL CLEANING

- A. Thoroughly clean exposed precast surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
 - 1. Do not use metal scrapers or brushes.
 - 2. Do not use acidic or alkaline cleaners.
- B. Wash windows and other non-precast surfaces.
- C. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt, and stains.

3.6 FIELD QUALITY CONTROL

- A. Engineer's Project Representatives: Engineer will assign Project representatives to help carry out Engineer's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Engineer's Project representatives use of scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- B. Notify Engineer minimum one week in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until Engineer has had reasonable opportunity to make observations of work areas at lift device or scaffold location.

END OF SECTION 030140

SECTION 036500 –EPOXY RELATED WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. The following epoxy related work is shown on the drawings and in this project manual:

- 1. Approximate locations of cracks for epoxy cracks injection work.

These drawings are for the Contractor's guidance only and are to be considered as a minimum for pricing. Contractor shall not do any additional work beyond what is shown in the drawings without prior written approval of the Engineer.

- B. Related Requirements:

- 1. Division 03 Section “Surface Preparation for Patching.”
 - 2. Division 03 Section “Concrete Repair Materials.”

- C. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.

- D. Contractor shall ensure that there is adequate ventilation in areas where epoxy repair work is being performed and that no work results in nauseating, annoying or toxic fumes and odors from entering occupied areas. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.

1.3 REFERENCES

- A. American Concrete Institute (ACI), latest version

- 1. ACI 503 Use of Epoxy Compounds with Concrete

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

- 1. ASTM C881 Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete

1.4 QUALITY ASSURANCE

- A. **Manufacturer's Qualifications:** Companies furnishing the epoxy materials shall have a proven track record of at least five years. Furthermore, they shall have in existence a program of training, certifying and supporting a nationally organized program of approved contractors. Evidence of this shall be made available to the Engineer upon request.
- B. **Contractor's Qualifications:** Contractor performing the work shall be an approved contractor by the manufacturer furnishing the epoxy materials, and shall have no less than five years experience in the various types of epoxy related work required in this project. A notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer along with the proposal to do the work.
- C. **Injection Equipment Requirements:** Injection equipment used by the Contractor shall be from a manufacturer who has been producing such equipment for a minimum of five years. Such equipment shall have a record of satisfactorily proportioning, mixing, and dispensing of the injection resin being used.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR EPOXY MATERIALS

- A. All epoxy material shall be new and manufactured within the shelf life limitations set forth by the manufacturer.
- B. Epoxy shall be a two-part epoxy adhesive material, and shall be of epichlorohydrin/amine type. Polysulphide epoxies are not acceptable.
- C. Epoxy used shall be insensitive to the presence of water and moisture, and shall be capable of application and of strength development even when applied to damp surfaces having a temperature of 40° or above.
- D. Epoxy used shall develop a minimum strength of 2000 psi in tension and 4000 psi in compression at the end of seven days.
- E. Epoxies used shall not deteriorate under approximately 200 freeze thaw cycles.
- F. Epoxies used shall be 100% solids without solvents.
- G. Bonding and strength characteristics of epoxies shall be stable when exposed to ultraviolet rays.
- H. The viscosity of the epoxy used for injection work shall be low enough (about 300 cps at 77°F) to completely fill hairline cracks as small as 10 mils.

2.2 EQUIPMENT

- A. Epoxy Injection Work

1. Master Builders Solutions: MasterInject 1380 or MasterInject 1500
2. Sika Corporation: Sikadur 35 Hi-Mod LV or Sikadur 52 Injection Resin
3. Euclid Chemical: Eucopoxy Injection Resin or Dural 452 LV

2.3 SUBSTITUTIONS

- A. Substitutions may be considered provided complete technical information and job references are furnished to the Owner and Engineer and are approved prior to commencement of work.
- B. Changes in products required to suit temperature and environmental conditions at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for various tasks.
- C. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also heed all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EPOXY INJECTION

3.1 APPLICATOR'S QUALIFICATIONS

- A. Epoxy injection work shall only be performed by contractors who have successfully used this process on at least five similar structural repairs of 1000 linear feet or longer, and which have performed successfully for a minimum period of five years.
- B. Only adequately trained epoxy injection applicators shall be used on the job. Furnish certificate of training prior to commencing work.

3.2 PREPARATION

- A. Before proceeding, the space in the vicinity of the crack location receiving epoxy shall be swept and be in a generally clean condition to permit proper bonding of surface seal.
- B. Cracks may be dry or damp, but free of standing water and frost.
- C. Entry points shall be established judiciously at a distance along the seal so that epoxy penetrates the crack completely. Spacing of entry points, however, shall be no greater than the thickness of the concrete at that location. Tighter joints will require closer spacing of entry ports.
- D. Adequate surface seal shall be applied to the face of the crack between the entry points. Use masking tape at the pre-established entry points to prevent the surface sealer from sealing the entry points. Alternatively, drill and port method may be used to establish entry points. Use only rotary-percussion type drills for drilling holes. Drills shall be fitted with bits having single tooth that produce large cuttings, and hollow stem drill rods that permit simultaneous blowing of compressed air providing immediate expulsion of the cuttings from the hole. Ensure that the drilling operation does not contaminate the cracks.

- E. Pre-sealing between ports may be done using a material meeting the requirements of these specifications.
- F. Allow adequate time for the surface seal material to cure before proceeding with the injection.

3.3 EQUIPMENT FOR INJECTION

- A. Pumps used for injection shall be a positive displacement type with interlock to provide positive ratio control in proper proportions. The pumps used shall be electrically or air powered, portable and shall provide an in-line mixing and metering system for the two-component epoxy. The pressure hoses and injection nozzle shall be of such a design as to allow proper mixing of the two components of the epoxy. Dwell time in mixing head shall not exceed ten seconds.
- B. The injection equipment shall have automatic pressure control, and shall be capable of injection pressures up to 300 psi to ensure complete penetration of cracks. Equipment used shall also have the capability of presetting the pressures, and shall be equipped with manual pressure control override.
- C. The presence of a stand-by injection unit shall be required.

3.4 EPOXY INJECTION

- A. Condition epoxy materials at temperature between 65°F-80°F unless otherwise recommended by the manufacturer. Epoxies beyond this range of temperature shall not be used. Do not store epoxy (even for a short period) in direct sunlight.
- B. Epoxy adhesive shall be injected into the crack at the first lower entry port with sufficient pressure to advance the epoxy to the next adjacent port. The original port shall be sealed and entry shifted to the port in which the epoxy appears. This manner of port-to-port injection shall be continued until each joint has been injected for the entire length.
- C. If port-to-port travel of epoxy is not achieved, the crack shall be identified, and the Engineer notified.
- D. Samples of mixed material shall be injected into a paper cup every 60 minutes to test ratio mix. These samples shall be dated and numbered and left at the sampling location until reviewed by the testing laboratory.
- E. Solvents shall not be used to thin epoxy introduced into the cracks.

3.5 FINISHING

- A. Allow epoxy adhesive in the cracks to cure before removing the surface seal. Ensure that there is no drainage of epoxy from the cracks due to premature removal of surface seal.
- B. The surface of the crack herein treated shall be finished flush with the adjacent concrete surfaces and shall show no indentations or evidence of port fittings.

- C. All work shall be performed and conducted in a neat, orderly manner. Clean-up whatever portions of the existing structure that get soiled or stained in the process of epoxy injection work.

END OF SECTION 036500

SECTION 071916 – WATER REPELLENTS AND SEALERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes clear water-repellent coatings and concrete penetrating sealers for the following vertical and horizontal surfaces:
 - 1. Exposed aggregate-surfaced precast concrete façade panels.
- B. Related Sections include the following:
 - 1. Division 03 Section “Precast Restoration and Cleaning.”
 - 2. Division 07 Section “Joint Sealants.”

1.3 PERFORMANCE REQUIREMENTS

- A. Provide water repellents with the following properties based on testing manufacturer's standard products, according to test methods indicated, applied to substrates simulating Project conditions using same materials and application methods to be used for Project.
 - 1. Absorption: Minimum 90 percent reduction of absorption after 24 hours in comparison of treated and untreated specimens.
 - a. Hardened Concrete: ASTM C 642.
 - 2. Water-Vapor Transmission: Maximum 10 percent reduction in rate of vapor transmission in comparison of treated and untreated specimens, per ASTM E 96.
 - 3. Water Penetration and Leakage through Masonry: Maximum 90 percent reduction in leakage rate in comparison of treated and untreated specimens, per ASTM E 514.
 - 4. Durability: Maximum 5 percent loss of water repellency after 2500 hours of weathering in comparison to specimens before weathering, per ASTM G 53.
 - 5. Permeability: Minimum 80 percent breathable in comparison of treated and untreated specimens, per ASTM D 1653.
 - 6. Chloride-Ion Intrusion in Concrete: Transportation Research Board, National Research Council's NCHRP Report 244, Series II tests.
 - a. Reduction of Water Absorption: 80 percent.
 - b. Reduction in Chloride Content: 80 percent.

1.4 SUBMITTALS

- A. Product Data: Include manufacturer's specifications, surface preparation and application instructions, recommendations for water repellents for each surface to be treated, and protection and cleaning instructions. Include data substantiating that materials are recommended by manufacturer for applications indicated and comply with requirements.
- B. Samples: Of each substrate indicated to receive water repellent, 12 inches (300 mm) square, with specified repellent treatment applied to half of each sample.
- C. Applicator Certificates: Signed by manufacturer certifying that the applicator complies with requirements.
- D. Certification by water repellent manufacturer that products supplied comply with local regulations controlling use of VOCs.
- E. Material Test Reports: Indicate and interpret test results for compliance of water repellents with requirements indicated.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who employs only persons trained and approved by water repellent manufacturer for application of manufacturer's products.
- B. Testing Agency Qualifications: An independent testing agency with experience and capability to conduct testing indicated in "Performance Requirements" Article without delaying the Work, per ASTM E 548.
- C. Regulatory Requirements: Comply with applicable rules of pollution-control regulatory agency having jurisdiction in Project locale regarding VOCs and use of hydrocarbon solvents.
- D. Field Samples: Engineer will select one representative surface for each substrate to receive water repellents. Apply water repellent to each substrate, with either partial or full coverage as directed. Comply with application requirements of this Section.
 - 1. Obtain Engineer's approval of field samples before applying water repellents.
 - 2. Maintain field samples during construction in an undisturbed condition as a standard for judging the completed Work.

1.6 PROJECT CONDITIONS

- A. Weather and Substrate Conditions: Do not proceed with application of water repellent under any of the following conditions, except with written instruction of manufacturer:
 - 1. Ambient temperature is less than 40 deg F (4.4 deg C).
 - 2. Concrete surfaces and mortar have cured for less than 28 days.
 - 3. Rain or temperatures below 40 deg F (4.4 deg C) are predicted within 24 hours.
 - 4. Application is earlier than 24 hours after surfaces have been wet.
 - 5. Substrate is frozen or surface temperature is less than 40 deg F (4.4 deg C).

6. Windy condition exists that may cause water repellent to be blown onto vegetation or surfaces not intended to be coated.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty, executed by the applicator and water repellent manufacturer, covering materials and labor, agreeing to repair or replace materials that fail to provide water repellency within the specified warranty period. Warranty does not include deterioration or failure of coating due to unusual weather phenomena, failure of prepared and treated substrate, formation of new joints and cracks in excess of 1/16 inch (1.5 mm) wide, fire, vandalism, or abuse by maintenance equipment.

1. Warranty Period: **10 years** from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 WATER REPELLENTS

- A. Silanes: Penetrating water repellent. A monomeric compound containing alkyl trialkoxysilanes with alcohol, mineral spirits, water, or other proprietary solvent carrier.
- B. VOC-Complying Water Repellents: Products complying with local regulations controlling use of VOCs, as certified by manufacturer.

2.2 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 1. Silane for Vertical Surfaces: Protectosil CHEM-TRETE BSM 400; Evonik Industries AG
 2. Silane for Horizontal Surfaces: Protectosil BH-N; Evonik Industries AG

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrate of substances that might interfere with penetration or performance of water repellents. Test for moisture content, according to repellent manufacturer's written instructions, to ensure surface is sufficiently dry.
 - 1. Precast Concrete: Remove oil, curing compounds, laitance, and other substances that could prevent adhesion or penetration of water repellents.
- B. Test for pH level, according to water repellent manufacturer's written instructions, to ensure chemical bond to silicate minerals.
- C. Protect adjoining work, including sealant bond surfaces, from spillage or blow-over of water repellent. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of water repellent being deposited on surfaces. Cover live plants and grass.
- D. Coordination with Sealants: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.
 - 1. Water-repellent work may precede sealant application only if sealant adhesion and compatibility have been tested and verified using substrate, water repellent, and sealant materials identical to those used in the work.
- E. Test Application: Before performing water-repellent work, including bulk purchase and delivery of products, prepare a small application in an unobtrusive location and in a manner approved by Architect to demonstrate the final effect (visual, physical, and chemical) of planned application. Proceed with work only after Architect approves test application or as otherwise directed.
 - 1. Revisions of planned application, if any, as requested by Architect, will be by Change Order if they constitute a departure from requirements of Contract Documents at the time of contracting.

3.2 APPLICATION

- A. Apply a heavy-saturation spray coating of water repellent on surfaces indicated for treatment using low-pressure spray equipment. Comply with manufacturer's written instructions for using airless spraying procedure, unless otherwise indicated.
 - 1. Precast Work: At Contractor's option, first application of water repellent on precast concrete units may be completed before installing units. Mask sealant-bond surfaces to prevent water repellent from migrating onto joint surfaces.
- B. Apply a second saturation spray coating, repeating first application. Comply with manufacturer's written instructions for limitations on drying time between coats and after rainstorm wetting of surfaces between coats. Consult manufacturer's technical representative if written instructions are not applicable to Project conditions.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Provide services of a factory-authorized technical service representative to inspect and approve the substrate before application and to instruct the applicator on the product and application method to be used.

3.4 CLEANING

- A. Protective Coverings: Remove protective coverings from adjacent surfaces and other protected areas.
- B. Immediately clean water repellent from adjoining surfaces and surfaces soiled or damaged by water-repellent application as work progresses. Repair damage caused by water-repellent application. Comply with manufacturer's written cleaning instructions.

END OF SECTION 071916

SECTION 079100 – PREFORMED JOINT SEALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.
- B. Section Includes:
 - 1. Preformed, foam joint seals.

1.3 INFORMATION SUBMITTALS

- A. Make submittals in accordance with the requirements of Division 01 and as specified in this Section.
- B. Product Data: Product data sheets, Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS), and installation instructions for each product proposed for use on the project.
- C. Samples:
 - 1. Field samples of premolded joint sealant. Width, thickness and durometer hardness of sealant shall be checked by the Engineer. Upward buckling caused by joint gap closure shall be limited to a maximum of 1/4 inch (6.4 mm) per ADA Guidelines.
- D. Material Test Reports:
 - 1. ADA Certification: Prior to installation, submit written certification from manufacturer indicating that expansion joints conform to Americans with Disabilities Accessibility Guidelines for Buildings and Facilities, as published by U.S. Architectural & Transportation Barriers Compliance Board, 1331 F Street, N.W., Suite 1000, Washington, DC 20004-1111. 1-800-872-2253.
 - 2. Submit test reports from accredited laboratory attesting to joint systems' movement capability and ADA compliance.

1.4 ACTION SUBMITTALS

A. Shop Drawings:

1. An expansion joint system is detailed on Drawings. Shop drawings shall include temperature adjustment table with expansion joint opening calculated at 10°F(5°C) increments. Shop drawing submittal shall show that proposed joint system is of similar gland configuration, capable of equal individual and combined movements in each direction when installed at designated temperature shown on drawings.
2. Manufacturer and Applicator shall review and approve all details before construction. Submit confirmation for this review in writing to Engineer along with the shop drawings.
3. Installation and Phasing Plans: Large scale details showing all conditions including, but not limited to, splices, terminations, and change in section or alignment.

B. Where installation temperature is other than specified temperature, submittal shall include calculations showing joint is capable of movement within design temperature range (supplied by Engineer) for “other” temperature, and that design and installation follow manufacturer’s recommendations. The design temperature range is -30°F (-34°C) to 130°F (54°C). Material samples.

C. Other information required to define joint placement or installation.

D. Quality Assurance Plan: Contractor setting expansion joint opening will require a temperature adjustment table to properly size joint gap at time of concrete pour or precast erection.

1. Caution: The expansion joint movement capability and the actual joint gap movement may not coincide if Quality Assurance measure not followed.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels showing the following information:

1. Manufacturer's brand name.
2. Type of material.
3. Directions for storage.
4. Date of manufacture and shelf life.
5. Lot or batch number.
6. Mixing and application instructions.
7. Color.

B. Store materials in a clean, dry location protected from exposure to direct sunlight. In storage areas, maintain environmental conditions within range recommended in writing by manufacturer.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Install expansion joint systems within the range of ambient and substrate temperatures recommended in writing by manufacturer.

1.7 QUALITY ASSURANCE

- A. Source Limitations: Use materials for work governed by this section from a single manufacturer.
- B. Qualifications:
 - 1. Manufacturer's Qualifications: Companies furnishing the materials shall have a proven track record of at least five years. Furthermore, they shall have in existence a program of training, certifying, and supporting a nationally organized program of approved contractors. Evidence of this shall be made available to the Engineer and Owner upon request.
 - 2. Contractor's Qualifications: Contractor performing the work shall be an approved contractor by the manufacturer furnishing the materials and shall have no less than five year experience in related work required in this project. Upon request by the Engineer, a notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer and Owner.
 - 3. Applicator's Qualifications: Only adequately trained and experienced personnel shall be used on the job.
- C. Pre-Installation Coordination
 - 1. Applicator shall coordinate services with related Work including layout of joint system and approval of methods for providing joints.
 - 2. Applicator shall inspect site to insure proper joint configuration in field.
 - 3. Expansion joint surface areas two feet on each side of joint gap shall be finish graded perpendicular to joint gap creating flush wall-to-wall transition. Elevations on each side shall be identical.

1.8 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
 - 1. Special Warranty: Written warranty, signed by expansion joint manufacturer agreeing to repair or replace expansion joint systems that do not comply with requirements or that deteriorate during the specified warranty period.

- B. Warranty Period: **Five (5) years** from date of acceptance of work, jointly executed by Manufacturer and Applicator.
- C. If material surface shows any of defects listed above, supply labor and material to repair all defective areas and to repaint all damaged line stripes.
- D. Perform any repair under this guarantee at no cost to Owner.
- E. Vandalism and abnormally abrasive maintenance equipment, are not normal traffic use and are exempted from warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General:
 - 1. Conform to Americans with Disabilities Accessibility Guidelines for Buildings and Facilities, as published by U.S. Architectural & Transportation Barriers Compliance Board, 1331 F Street, N.W., Suite 1000, Washington, DC 20004-1111. 1-800-872-2253.
 - 2. Preformed, Foam Joint Seals per detail 75.1 on drawing sheet R-501: Manufacturer's standard joint seal manufactured from urethane or EVA (ethylene vinyl acetate) foam with minimum density of 10 lb./cu. Ft (160 kg/cu. m) and impregnated with a nondrying, water-repellent agent. Factory produce them in precompressed sizes in roll or stick form to fit joint widths based on design criteria indicated, with factory-or field-applied adhesive for bonding to substrates.
 - 3. Material shall be applied in lengths no shorter than 20 ft.

2.2 PREFORMED, FOAM JOINT SEALS

- A. A. Premolded Systems: Premold sealant in supplier's factory. Premolding elsewhere prohibited.
 - 1. Sika Corporation – Emseal Joints Systems Ltd.; Seismic Colorseal DS
 - 2. BASF – Watson Bowman ACME; Wabo WeatherSeal II Expansion Joint

2.3 ACCESSORY PRODUCTS

- A. Epoxy Adhesive
 - 1. Use epoxy adhesive product per selected manufacturer's installation guidelines.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by preformed joint seal manufacturer for joint substrates indicated.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to preformed joint seal manufacturer, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces, and formulated to promote best adhesion to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with preformed joint seals and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect surfaces to receive Work and report immediately in writing to Engineer any deficiencies in surface which render it unsuitable for proper execution of Work.
- B. Coordinate and verify that related Work meets following requirements:
 - 1. Concrete/masonry surfaces are finished as acceptable for system to be installed.
- C. Acid etching: Prohibited.
- D. All openings to occupied space shall be sealed to prevent cleaning materials, solvents and fumes from infiltration. All protective measures and/or ventilating systems required to prevent infiltration are incidental to this Work.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing preformed joint seals to comply with preformed joint seal manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of preformed joint seal, including dust, paints (except for permanent protective coatings tested and approved for seal adhesion and compatibility by seal manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimal bond with preformed joint seals. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.

- b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - d. Exterior insulation and finish systems.
- 3. Remove laitance and form-release agents from concrete.
- 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint seals. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by preformed joint seal manufacturer or as indicated by tests or prior experience. Apply primer to comply with joint seal manufacturer's written instructions. Confine primers to areas of joint seal bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of adhesive or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION

- A. General: Comply with preformed joint seal manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Installation of Preformed, Foam Joint Seals:
 - 1. Install each length of seal immediately after removing protective wrapping.
 - 2. Firmly secure compressed joint seals to joint gap side to obtain full bond using exposed pressure-sensitive adhesive or field-applied adhesive as recommended by manufacturer.
 - 3. Do not pull or stretch material. Produce seal continuity at splices, ends, turns, and intersections of joints.
 - 4. For applications at low ambient temperatures, heat foam joint seal material in compliance with manufacturer's written instructions.

3.4 CLEANING

- A. Clean off excess material and material smears adjacent to joints as work progresses using methods and materials approved by manufacturers.

3.5 PROTECTION

- A. Protect preformed joint seals from damage resulting from construction operations or other causes so seals are without deterioration or damage at time of Substantial Completion.

- B. Cut out, remove, and repair damaged or deteriorated seals so repaired areas are indistinguishable from original work.

3.6 FIELD QUALITY CONTROL

A. Responsibilities

1. Manufacturer's Responsibility: Manufacturer's field representation shall be responsible for periodically performing quality control reviews.
2. Contractor's Responsibility: Contractor is responsible for performing continuous field quality control during the progress of work.

B. Minimum Quality Control Requirements

1. Water Testing: Prior to opening to operation, Contractor shall test joint seal for leaks. Repair leaks revealed by examination of seal on interior side. Repeat test and repairs until all leaks stopped for full 12 hours. Coordinate testing with the Engineer, Owner, and Joint Manufacturer's field representation for witnessing the water testing.

3.7 FIELD QUALITY ASSURANCE

A. Responsibilities

1. Contractor's Responsibility

- a. It is the Contractors responsibility to request and schedule all testing required by this Section.
- b. Notify Owner and Engineer of work schedule at least 7 days in advance.
- c. When the Engineer reports testing or inspection results that are not in conformance with the project requirements or manufacturer's requirements the Engineer and Owner reserve the right to amend the rate of testing, amend the rate of inspections, request additional testing, and request additional inspections.
 - 1) The cost of repair, rework, and/or replacement shall be borne by the Contractor.

B. Inspections

1. Periodically inspect joint during the Contractor's 12 hour quality control water test. Document any signing of joint leaking.
2. Contractor shall test to ensure upward buckling is limited to 1/4 inch (6.4 mm) or less to comply the ADA regulations.

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END OF SECTION 079100

SECTION 079200 – 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. Section Includes:

- 1. Labor, materials, supervision, and incidentals required to install joint sealants and associated materials.
- B. Contractor shall provide barricades and signage around work areas to prevent patrons of the facility from entering the work area.
- C. Contractor shall provide traffic cones, barriers, and other traffic control measures as necessary to direct traffic around work areas during repairs. Contractor shall consult with the Owner to determine appropriate traffic control measures.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C 1193 Standard Guide for Use of Joint Sealants

1.4 INFORMATION SUBMITTALS

- A. Make submittals in accordance with the requirements of Division 01 and as specified in this Section.
- B. Product Data: Product data sheets, Material Safety Data Sheets/Safety Data Sheets, and manufacturer's installation instructions for each product proposed for use on the project.
- C. Material Certificates: Statement of material compatibility for components of the system assembly from the manufacturer. System assembly shall include:
 - 1. Substrate cleaning solvents
 - 2. Backer materials
 - 3. Primers
 - 4. Sealant materials

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D. Environmental Certification:

1. Certification that products and installation comply with applicable EPA, OSHA, and VOC requirements regarding health and safety hazards.

1.5 QUALITY ASSURANCE

- A. Obtain joint sealant materials from a single manufacturer for each different product required.
- B. Contractor's Qualifications: Contractor performing the work shall be approved by the manufacturer and have a minimum of three years of experience performing tasks similar to the types of work required in this project.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in original unopened containers or bundles with labels indicating manufacturer, product name/designation, color, expiration date, pot life, curing time, and mixing instructions for multi component materials.
- B. Store and handle materials in accordance with the manufacturer's recommendations to prevent deterioration or damage due to moisture, temperature, contaminants, or other causes.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealant materials under the following conditions:
 1. When air and substrate temperatures are outside limits permitted by the manufacturer.
 2. When joint substrates are wet.
 3. When joint widths are less than or greater than allowed by the manufacturer for the indicated application.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

- A. General Requirements for Traffic Grade Polyurethane Sealants
 1. Self-leveling sealants shall be tooled in accordance with details shown in the construction documents.
 2. Sealants and accessories shall not stain concrete or masonry.

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B. Polyurethane Sealant for Non-Cove Horizontal Joints:

1. Master Builders Solutions:
 - a. Primer: MasterSeal P 173
 - b. Sealant: MasterSeal SL 2
2. Sika:
 - a. Primer: Sikaflex 260, 429, or 449
 - b. Sealant: Sikaflex-2c NS TG

C. Polyurethane Sealant for Vertical and Cove Joints:

1. Master Builders Solutions:
 - a. Primer: MasterSeal P 173
 - b. Sealant: MasterSeal NP 2
 - c. Silicone Sealant: MasterSeal NP 100
2. Sika:
 - a. Primer: Sikaflex 260, 429, or 449
 - b. Sealant: Sikaflex-2c NS
 - c. Silicone Sealant: Sikasil WS-290

2.2 ACCESSORY PRODUCTS

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

2.3 SUBSTITUTIONS

- A. Substitutions may be considered provided complete technical information and job references are furnished to the Owner and Engineer and are approved prior to commencement of work.
- B. Changes in products required to suit temperature and environmental conditions at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for various tasks.

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- C. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also heed all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to commencement of joint sealant work, installer shall inspect all joints to receive joint sealant to verify that substrate surfaces are ready to receive work. Do not commence joint sealant work until all unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean out joints immediately before installing joint sealants.
- B. Remove loose materials and foreign matter which might impair adhesion of sealant.
- C. Clean and prime joints in accordance with manufacturer's instructions.
- D. Perform surface preparation in accordance with manufacturer's instructions and ASTM C 1193.
- E. Protect elements surrounding the work of this Section from damage or disfigurement. Use masking tape where required to prevent contact with adjoining surfaces which would be permanently stained or damaged by such contact or by required cleaning methods to remove sealant spillage. Remove tape immediately after tooling without disturbing sealed joint.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
 - 1. Do not leave gaps between ends of joint backers.
 - 2. Do not stretch, twist, puncture, or tear joint backers.
 - 3. Remove absorbent joint backers which have become wet prior to sealant application and replace with dry joint backers.
- D. Install bond breaker where joint backing is not used, or as required to prevent third-side adhesion of sealant to back of joint.

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- E. Install sealant such that the recess provided is filled completely and joint sealant is free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave, unless otherwise indicated on the drawings. Tooling shall be performed immediately after sealant application and before curing begins.

3.4 PROTECTION AND CLEANING

- A. Protect joint sealants during curing from contact with contaminating substances or from damage resulting from construction operations or pedestrian/vehicular traffic.
- B. Remove excess sealants adjacent to joints by methods and with cleaning materials approved by the joint sealant manufacturer as work progresses.

END OF SECTION 079200

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SECTION 100100 – CUTTING AND PATCHING

PART 1 - SUMMARY

- 1.1 This Section includes procedural requirements for cutting and patching as may be required when replacing ATC equipment in the control cab consoles. See the Contract Drawings for the applicable console parts of the Work.
- 1.2 QUALITY ASSURANCE
- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
 - B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or which results in increased maintenance or decreased operational life or safety.
 - C. Miscellaneous Elements: Do not cut and patch elements or related components in a manner that could change their load-carrying capacity, which results in reducing their capacity to perform as intended, or which results in increased maintenance or decreased operational life or safety.
 - D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Engineer's opinion, reduce the building's aesthetic qualities. Elements that have been cut or patched in a visually unsatisfactory manner shall be removed and replaced.
- 1.3 MATERIALS
- A. Plastic Laminate
 - 1. Acceptable Manufacturers: Wilsonart, Pionite, Formica, and Nevamar and others as acceptable to Architect and Owner
 - 2. Decorative Laminates
 - a. High-pressure decorative laminate to match existing.
 - b. High-pressure cabinet liner to match existing.
 - c. High-pressure backer to match existing.
 - 3. Exposed horizontal surfaces: TBD by Owner
 - 4. Exposed, interior and exterior vertical surfaces: to match existing.
 - 5. Backing sheet for concealed surfaces: to match existing.
 - 6. Backing sheet for semi-exposed surfaces: to match existing.
 - 7. Color (all surfaces): Approved by Owner / Match existing.
 - B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 2 - CONSTRUCTION

2.1 CONSTRUCTION

- A. Console Restoration: If a console surface is damaged or an exposed hole is the result due to equipment replacement, restore it to a new condition. Construct of 3/4 inch MDF providing balanced construction, surfaced with cabinet liner for semi-exposed and vertical grade laminate for exposed locations.
- B. Defective workmanship or damaged components shall be corrected, repaired, or replaced, as requested by the Architect, without further cost to the Owner.

2.2 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

2.3 PREPARATION

- 1. Temporary Support: Provide temporary support of Work to be cut, as needed.
- 2. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- 3. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- 4. Retain below where Owner continues to occupy other portions of an existing facility.
- 5. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services.

2.4 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
- B. Cutting: Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition. Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
 - 1. Control Consoles: Cut components in such a way that all edges of the cut are completely covered by the bezel of the equipment being installed. If holes are cut for ventilation or wire routing in any exposed surface, then a suitable grommet shall be installed. Choose colors for bezels and grommets to be a compatible accent or match to the color of the console.
 - 2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as

invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

END OF SECTION 100100

SECTION 25 50 00 – AIR TRAFFIC CONTROL (ATC) EQUIPMENT

PART 1 - GENERAL

1.1 CODES AND STANDARDS

- A. The criterion set forth in this section includes the minimum equipment, materials, and labor to satisfy the ATC communication requirements for a Level I, Low Activity Airport Traffic Control Tower (ATCT) at the Battle Creek Executive Airport, Battle Creek, MI. The Contract Drawings are directly related to this section which shall be referred to in coordinating the installation of ATC equipment in the Battle Creek Executive Airport ATCT.
- B. All electrical equipment and installations shall be provided in accordance with the current required local and national codes and standards, as applicable. Qualified personnel shall perform the installations and shall also be in attendance for all punch list and final inspections. All equipment is based on the guidelines set forth in the FAA Contract Tower (FCT) Minimum Equipment List (MEL), FAA JO 7210.78 Appendix A, including current updates by the Federal Contract Tower Program Office, Washington, DC.

1.2 QUALIFICATIONS

- A. The Contractor must provide a minimum of two (2) technicians on-site for this project, both having applicable prior experience. These Contractors must demonstrate the ability to install, configure, and integrate all equipment needed to meet FAA minimum standards, as provided in the FAA MEL, in at least four (4) locations over the past twenty-four (24) months. Radios shall be tuned and certified by FCC licensed Contractors as provided by the Contractor. The Contractor shall provide documentation for review by the Project Engineer (Owner's Representative), substantiating the necessary experience.

1.3 EQUIPMENT INSTALLATION AND COORDINATION

- A. The Contractor shall furnish, install, test, and verify all equipment, hardware, software, racks (securely attached to each other and to the floor), cabling, conduit, connectors, labeling (identification), and miscellaneous equipment required to provide a complete and usable installation. All ATC equipment shall be new unless otherwise indicated and shall be installed in the existing control tower. All components of the ATCT at the Battle Creek Executive Airport shall be constructed to Federal Contract Tower (FCT) standards. The existing ATCT is equipped with an elevator to the floor below the control cab. ATC Equipment shall be installed in the Control Cab and in the Equipment Room (1st level of the tower). The Federal Aviation Administration (FAA) electronics are located on the 1st level which shall not be disturbed. The Contractor shall be responsible for coordinating its equipment installation with the FAA through the Owner or its designated representative, if any conflict is anticipated.

- B. All submittals shall be provided in pdf electronic format. A general arrangement of the ATC equipment console is provided in the Contract Drawings. The cab console is constructed of custom millwork with alternating flat and sloped surfaces (turrets) supporting pedestal mounted displays and panels as well as flush mounts. The replacement ATC equipment sizes and locations shall be coordinated with the existing console size and equipment displays to remain.
- C. A general arrangement of the ATC equipment console is provided in the Contract Drawings. The cab console is constructed of custom millwork with alternating flat and sloped surfaces (turrets) supporting pedestal mounted displays and panels as well as flush mounts. The relocated ATC equipment sizes and locations are to be coordinated with the new console millwork. If the Contractor proposed to make any modifications to the console layout from that presented in the Contract Drawings or as subsequently approved, then the Contractor shall submit a clear statement and/or drawings for approval thirty (30) days prior to scheduled installation.

1.4 SCHEDULING INSTALLATION

- A. Installation shall begin upon the receipt of a Notice to Proceed from the Owner. Work shall normally be conducted during typical daytime weekday working hours and shall not interfere with the conduct of air traffic control. Any work proposed to be conducted during other hours shall be requested by the Contractor and approved by the Owner in writing prior to any attempt. The Contractor shall supply the Owner and his Authorized Representative with an initial schedule and monthly updates. It is the Contractor's responsibility to schedule and coordinate work with the Owner and others, as required. The Contractor shall report any difficulties or delays to the Owner or his Authorized Representative, immediately.

PART 2 - EQUIPMENT

2.1 VOICE COMMUNICATIONS SWITCHING SYSTEM (VCSS) REQUIREMENTS

- A. Existing: Gate X, Thermal Management System, Frequentis, USA
- B. The existing Voice Communications Switching System (VCSS) to remain in place and operational.
- C. The Contractor shall furnish and install the components necessary to replace the existing VCSS Display Stations located in the Control Cab (total of 4 positions). The system shall be compatible and capable of providing connectivity between the air traffic controllers and the voice communications equipment in the facility. This system shall provide the airport traffic controllers with the ability to utilize the equipment specified in the radio, telecommunications, and voice recording requirements, any dedicated circuits, intercom system between positions, position relief brief recording system, redundant capability between positions, and software that is programmable at each station and remotely.
- D. The VCSS Displays shall be installed as independent operator positions with station-to-station redundancy in the ATCT Cab. The screens for these positions shall be adjustable and mounted in the cab condole turrets, as approved. All termination cabling for the VCSS shall be done in the equipment room to avoid interference in the cab area.

- E. The Contractor shall advise the Owner if and when the local telephone company may need to be advised regarding the reconnection to the existing dedicated and/or commercial line circuits. The Contractor shall confirm any changes to the type and number of lines required with the Owner in advance.
- F. Each of the switching consoles shall include the required number of audio jacks to facilitate the use of the headsets and the handsets at each of the operating positions (to match the controller operations at the existing tower).
- G. VCSS shall be tested for full capability and functionality prior to being powered down and relocated. Once relocated and reinstalled, VCSS shall be tested for full operational capability and functionality.
- H. The Contractor shall advise the Owner if and when the Federal Aviation Administration (FAA) or the local telephone company may need to be advised regarding the reconnection to the existing dedicated FAA and/or commercial line circuits. The Contractor shall confirm any changes to the type and number of lines required with the Owner in advance. The switching system shall have the proper interfaces and cards required to handle FAA lines from the parent Approach Control facility and any other dedicated circuits identified by the FAA and the Owner. The Contractor shall be responsible for confirming the number and type of lines with the Owner and the coordination of the FAA interface, as required.
- I. Each position shall support loop configuration that provides redundant voice and data communications with the existing VCSS Central Equipment.

2.2 MAIN RADIO TRANSMITTERS AND RECIVERS

- A. Existing Transmitters:
 - 1. UHF Ground Secondary: General Dynamics CM-200 UHF Transmitter (256.875 MHz)
 - 2. UHF Local Secondary: General Dynamics CM-200 UHF Transmitter (239.025 MHz)
 - 3. VHF Ground Secondary: General Dynamics CM-200 VHF Transmitter (121.7 MHz)
 - 4. (2) General Dynamics CM-300 (V2) VHF Low Power Digital Transmitter
- B. Existing Receivers:
 - 1. UHF Ground Secondary: General Dynamics CM-200 UHF Receiver
 - 2. UHF Local Secondary: General Dynamics CM-200 UHF Receiver
 - 3. VHF Ground Secondary: General Dynamics CM-200 VHF Receiver
- C. Contractor to match existing transmitters and receivers with newest version. Radios must achieve all applicable FAA standards and acceptance. Frequencies shall match those of the existing for BTL.
- D. The Contractor shall install Rack Mount Transmitters and Rack Mount Receivers into the existing equipment racks located in the Equipment Room. These radios shall be installed so that all frequencies are available to each controller position in the cab area via the VCSS. Radios shall be rack mounted in an existing equipment rack in the designated Equipment Room. For the existing frequencies listed below:
 - 1. Summary of Features for VHF Single Channel Receivers and Transmitters
 - a. Match Existing BTL frequencies.

2.3 RADIO ANTENNAS AND CABLE MANAGEMENT

- A. The Contractor shall furnish and install antennas to support the Ground, Local, and ATIS frequencies. The shall meet the requirements of Taco D500 Series, Antenna Products DPV or approved equal.
- B. Coaxial cables from the rack to the new junction boxes on the roof shall be helix Superflex cable. Lengths of coax that will be exposed to the elements on the roof shall be RG-214 or LMR-400 or an approved equal. RG-214 or LMR-400 may be used inside the building as well to avoid splicing.
- C. Antenna replacements shall be mounted on the roof of the control tower at the existing locations. New mounting hardware, conduits and junction boxes installed on the roof parapet wall of the ATCT shall be rated for outdoor use and provide acceptable resistance to the elements. Approved isolation materials shall be employed where dissimilar metals attach. Maintain all existing grounding and lightning protection. Any open conduits exposed to the outside shall be plugged with an approved Duct Seal Putty.
- D. Summary of Existing Features (Antennas):
 - 1. Antenna 1:
- E. Antennas shall be tested by the Contractor before and after their installation. If there is any possibility of frequency interference or bleed-over, provide filters as specified below. Provide transient suppressors (Polyphaser or equal) for each antenna to replace the existing ones.

2.4 RADIO FILTERS

- A. When radio filters are required, the Contractor shall furnish and install cavity type filters on each of the VHF and UHF single channel receivers. Radio filters built-in to each new receiver shall be provided to minimize channel interference. Cavity filters shall be required if the new installation creates any unique interference with respect to its components or the control tower's location. Contractor must determine this prior to completion and acceptance. Telewave Bandfilters, Sinclair Technologies Low Band Aviation, or an approved equal shall be provided.

2.5 WIND SPEED AND DIRECTIONAL DISPLAY

- A. The Contractor shall furnish and install wind speed and directional display at locations outlined in the Contract Documents (total of 4). Contractor to match existing wind speed gauge per:
 - 1. Existing: Young Model 06201 Wind Tracker
 - 2. Approved Equal

2.6 TRANSLATORS

- A. The Contractor shall furnish and install a programmable indicator and translator as noted on the Construction Documents. Contractor to match existing translators per:
 - 1. Existing: Young Model 26700 Series Programable Translator / Recorder
 - 2. Approved Equal

2.7 MODEMS

- A. The Contractor shall furnish and install modems as noted in the Construction Documents. Contractor to match existing modems per:
1. Existing: XStream-PKG 900 MHz RS-232/485 RF Modem by Digital International, Inc.;
 2. XBEE RF Modem
 2. Approved Equal

2.8 SIGNAL LIGHT GUN

- A. The Contractor shall furnish and install two (2) new, cordless, rechargeable signal light gun with charger, spare battery and two desktop holders to perform visual ground to air communications. This equipment shall meet FAA standards in order to facilitate ground to aircraft communications and operations in the event that the control tower and/or aircraft radio communications become inoperative.
1. Existing: Thorn DNT Airfield Lighting Model No.
 2. Approved Equal: SLG LED or DME P/N 401200

2.9 WINDOW SHADES

- A. The Contractor shall furnish and install ATC window shades for all glazing in the control tower cab. One shade roller shall be installed at each of eight (8) sides of the control cab. That is, one shade shall span the entire window equal to one side of the cab. The shades shall replace all existing and installed in the existing shade pockets indicated on the drawings. The Contractor shall remove and replace the thin wooden nailer boards where former screw holes do not allow a fresh screw insertion. Shade material shall be manufactured from a scratch resistant polyester type polymer in accordance with Federal Specification L-F-377b for weatherable DuPont Mylar clear sheet film or other FAA approved manufacturer. Fire resistant rated "self-extinguishing to very slow burning" U.S. Testing Company, fire test 302; melting point 500 deg. F, combustion 977 deg. F. no toxic hazard.
1. Transparent Plastic Shade Film Construction: Shade product shall consist of a 5 mil, 3-ply laminated polyester film. Two sheets of polyester vat dyed gray, hard coat S/R applied to one side. The final film construction shall be 5 gage thick, optically clear and totally transparent. Surface tinting or color adhesives will not be acceptable.
 2. Visible Light Transmission: Shade shall transmit no more than 4 percent of the visible solar energy (from 380 to 780 nanometers) when measured by Association of Industrial Metalizers, Coaters, and Laminators (AIMCAL) Standard Methods.
 3. Ultra-Violet Transmission: Shade shall transmit no more than 2 percent of the ultra-violet solar energy (from 800 to 780 nanometers) when measured by AIMCAL Standard Methods.

4. Total Solar Energy Rejected: Shade will reject 60.5 percent of the total solar energy transmitted (from 360 to 2100 nanometers) when measured by AIMCAL Standard Methods.
 - a. Solar Absorptions: 61 percent
 - b. Shading Coefficient: 0.45
 - c. Solar Heat Gain Coefficient: 0.40

The shade material shall closely follow the same incline as the cab glass in the down position. A wooden nailer board painted flat black shall be provided by the Contractor for the full length of each shade pocket for the shades to be securely and evenly screwed into. Only manufacturers and Contractors experienced with control tower installations shall be allowed to furnish and install cab window shades. Window shades shall be adjustable and have a scratch resistant surface on cord drawn rollers. Installation of window shades shall be coordinated on-site with the Air Traffic Manager and approved by the Engineer. Any operational defects, deviations from tolerances or optical distortion shall be cause for rejection.

2.10 CUTOVER REQUIREMENTS

- A. Cutover from existing equipment shall be carefully planned and coordinated in order to maintain safe and continuous operation of airport traffic control.
 1. The BTL Control Tower is a 0600 to 2100 operational facility. The Contractor shall perform the Cutover during the non-operational hours and remain on-site for at least the first day of operation of the new ATC equipment to provide whatever assistance and/or troubleshooting is required.
 2. The Contractor shall provide an equipment Cutover Plan to the Owner, Engineer, and Air Traffic Manager for review at least 60 days prior to the planned cutover date. No cutover activities shall commence until all Owner and ATC coordination has been finalized.
 3. The Contractor shall make all required provisions to prevent impact to flight operations during control tower transfer from the existing equipment to the new replacements installed.
 4. The Contractor shall coordinate all activities with the Owner, the Air Traffic Manager and related cutover personnel prior to and during the cutover. A pre-cutover meeting shall be scheduled at least 48 hours before the scheduled activity.
 5. Any existing equipment that will be replaced shall remain on-line and operable until all new systems are in place, tested and ready for operational cutover.
 6. The Cutover Plan shall address:
 - a. Provide an equipment replacement plan that shall maintain operational requirements simultaneously in both the existing and new control towers until the new one is commissioned.
 - b. Provide a list of all ATC equipment and incidentals to be replaced, removed, or relocated.

- c. Confirm critical equipment necessary to maintain ATC operations.
- d. Confirm that all work done during tower off-hours and make written request for any required deviations.
- e. Develop a strategy and schedule that mitigates impact to the ATC operations and coordinate this all with concerned parties.
- f. Verify operational capability after equipment installation and during cutover. Immediately identify and correct deficiencies, as they may be encountered. Continue to monitor all equipment during tower operating hours for at least four (4) hours after cutover.

2.11 WARRANTY

- A. The Contractor shall provide a minimum (1) one-year warranty on all installation work to include all labor, hardware, software, communication components, voice switchgear, and all related work completed throughout the facility. Any damage caused by natural causes (very high winds, lightning strike, etc.) or other construction trades are understood to normally void warranty conditions for labor. All equipment shall be provided with written one (1) year (minimum) warranties, except that the main radio transmitters/receivers shall carry a two (2) year warranty on hardware and chairs shall carry 5 years.

2.12 TRAINING AND ORIENTATION

- A. The Contractor shall schedule and provide an on-site training session to the ATC controllers and the Owner's maintenance personnel at the completion time of the installation. Completion of this session shall be documented by the Contractor with the Owner and attendees. A separate visit by the Contractor's Contractor may be required within the first 30 days after commissioning to provide an inspection and adjustments of the electronics' performance, as may be requested by the Owner.
- B. Sufficient written documentation shall be provided by the Contractor in order for the Owner and controllers to independently operate and maintain the equipment included in this specification. Documents shall include all operation and maintenance manuals, schematics, diagrams, as-built conditions, and any other related materials.

END OF SECTION 275000